
**International Journal of Innovative Technologies in Social Science**

e-ISSN: 2544-9435

**Operating Publisher**
**SciFormat Publishing Inc.**
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW,
Calgary, Alberta, T3E0A7,
Canada
+15878858911
editorial-office@sciformat.ca

| | |
|---|---|
| **ARTICLE TITLE** | THE LOW-FODMAP DIET IN IRRITABLE BOWEL SYNDROME: EFFECTIVENESS, LIMITATIONS, AND PRACTICAL IMPLICATIONS - A NARRATIVE REVIEW |
| **DOI** | https://doi.org/10.31435/ijitss.3(51).2026.5919 |
| **RECEIVED** | 28 May 2026 |
| **ACCEPTED** | 17 August 2026 |
| **PUBLISHED** | 20 August 2026 |
| **LICENSE** | The article is licensed under a **Creative Commons Attribution 4.0 International License.** |

# THE LOW-FODMAP DIET IN IRRITABLE BOWEL SYNDROME: EFFECTIVENESS, LIMITATIONS, AND PRACTICAL IMPLICATIONS - A NARRATIVE REVIEW

***Julia Gatniejewska*** *(Corresponding Author, Email: juliaanna177@gmail.com)*
*MD, Independent Researcher, Poland*
*ORCID ID: 0009-0001-1463-7497*

***Martyna Sienicka***
*MD, Instytut „Centrum Zdrowia Matki Polki" w Łodzi, Poland*
*ORCID ID: 0009-0009-8164-6236*

***Paulina Prudzic***
*MD, Independent Researcher, Poland*
*ORCID ID: 0009-0001-8746-8540*

***Weronika Winiarska***
*MD, University Orthopaedic and Rehabilitation Hospital in Zakopane, Zakopane, Poland*
*ORCID ID: 0009-0004-2731-615X*

***Wiktoria Bełcikowska-Skowron***
*MD, Dr Tytus Chałubiński Radom Specialist Hospital, ul. Lekarska 4, 26-610 Radom, Poland*
*ORCID ID: 0009-0001-1789-1845*

***Aleksandra Siegmund***
*MD, Medical University of Silesia in Katowice, Katowice, Silesia, Poland*
*ORCID ID: 0000-0002-6162-6096*

***Marzena Chrapczyńska***
*MD, Maria Skłodowska-Curie Provincial Specialist Hospital in Zgierz, Poland*
*ORCID ID: 0000-0002-3876-292X*

***Agnieszka Filarecka***
*MD, Tytus Chałubiński District Hospital in Zakopane, ul. Kamieniec 10, Zakopane, Poland*
*ORCID ID: 0009-0005-4200-7635*

***Piotr Przybyszewski***
*MD, Dr Tytus Chałubiński District Hospital in Zakopane, Poland*
*ORCID ID: 0009-0000-3658-494X*

***Emilia Przybyszewska***
*DMD, "AVO-DENTAL" Dentistry & Aesthetic Medicine in Zakopane, Poland*
*ORCID ID: 0009-0002-4393-1967*

**ABSTRACT**

**Introduction:** Irritable bowel syndrome is characterized by symptoms such as abdominal pain associated with defecation and changes in stool frequency and/or consistency. In recent years, the low-FODMAP diet has become one of the most commonly used dietary interventions.
**Aim of the study:** The aim of this study was to assess the effectiveness of the low-FODMAP diet and to identify its limitations and consistency with current guidelines.
**Methods:** A narrative review of the literature was conducted, including 31 publications from 2012–2026, such as original research articles, randomized controlled trials, systematic reviews, meta-analyses, and current clinical guidelines on the diagnosis and treatment of IBS. PubMed and Google Scholar databases were searched using predefined inclusion and exclusion criteria.
**Main findings:** The results of the analyzed studies indicate that the low-FODMAP diet may reduce IBS symptoms such as bloating, abdominal pain, and intestinal discomfort. However, no clear superiority over other dietary strategies has been demonstrated. Clinical response varies and may depend on the patient's gut microbiota. Data on the use of the low-FODMAP diet in the pediatric population and other special clinical groups are limited and do not allow definitive conclusions to be drawn.
**Conclusions:** The low-FODMAP diet is an effective therapeutic option in selected patients with IBS; however, it should be implemented in stages, including elimination, reintroduction, and personalization phases. Supervision by a dietitian and individual adjustment of recommendations to the patient's needs are recommended. Further studies are needed to assess the long-term effects of the diet and predictors of clinical response.

**KEYWORDS**

Irritable Bowel Syndrome (IBS); low-FODMAP Diet; Functional Gastrointestinal Disorders; Dietary Intervention; Nutrition Therapy

**CITATION**

Julia Gatniejewska, Martyna Sienicka, Paulina Prudzic, Weronika Winiarska, Wiktoria Bełcikowska-Skowron, Aleksandra Siegmund, Marzena Chrapczyńska, Agnieszka Filarecka, Piotr Przybyszewski, Emilia Przybyszewska. (2026) The Low-FODMAP Diet in Irritable Bowel Syndrome: Effectiveness, Limitations, and Practical Implications - a Narrative Review. *International Journal of Innovative Technologies in Social Science*. 3(51). doi: 10.31435/ijitss.3(51).2026.5919



## Introduction

Irritable bowel syndrome (IBS) is a chronic functional gastrointestinal disorder belonging to the group of disorders of gut–brain interaction. Its main symptoms include abdominal pain associated with defecation and changes in stool frequency and/or consistency (Sood et al., 2017). The current diagnostic approach emphasizes the importance of a so-called positive diagnosis of IBS, based on symptom criteria, which helps reduce excessive diagnostic testing and enables earlier treatment implementation (Sood et al., 2017). IBS is associated with a significant deterioration in patients' quality of life, despite the absence of detectable structural abnormalities in the gastrointestinal tract (Magge & Lembo, 2012).

The importance of diet as a factor modulating IBS symptoms is well documented, and patients often identify consumed foods as triggers of their symptoms (Lucas Zapata et al., 2024; Magge & Lembo, 2012). In this context, the low-FODMAP diet is one of the most extensively studied dietary interventions (Cristofori et al., 2025; Magge & Lembo, 2012). FODMAPs are short-chain carbohydrates with limited absorption in the small intestine, which may increase osmotic load and undergo bacterial fermentation in the large intestine (Magge & Lembo, 2012). These mechanisms are considered a potential cause of symptom exacerbation, such as bloating and abdominal pain, particularly in individuals with visceral hypersensitivity (Magge & Lembo, 2012; Zhang & Su, 2025).

The effectiveness of the low-FODMAP diet in alleviating IBS symptoms has been evaluated in randomized trials and numerous systematic reviews (Espitia et al., 2026; Kuźmin et al., 2025). Some studies indicate symptom improvement in patients following this diet; however, the results are not entirely consistent,

and the quality of evidence varies (Bogdanowska-Charkiewicz, Malinowska, et al., 2026; Kuźmin et al., 2025). Umbrella reviews emphasize that although the low-FODMAP diet may be effective in some patients, further research is needed to clearly determine its effectiveness and clinical indications (Bogdanowska-Charkiewicz, Malinowska, et al., 2026).

The literature also describes a three-phase model of the low-FODMAP diet, including the elimination, reintroduction, and personalization phases (Bellini et al., 2020; Lucas Zapata et al., 2024). It is emphasized that complete elimination of high-FODMAP foods should not be used long term, and the diet should be adjusted to the patient's individual tolerance (Bellini et al., 2020; Hill et al., 2017). At the same time, practical difficulties related to its implementation are highlighted, including the complexity of dietary recommendations and the need for appropriate patient guidance (Hill et al., 2017; Lucas Zapata et al., 2024).

An important area of research is the effect of the low-FODMAP diet on the gut microbiota. The analyzed studies suggest that this diet may lead to changes in microbiome composition; however, the clinical significance of these changes remains unclear (Cristofori et al., 2025; Zhang & Su, 2025). Therefore, this topic remains under discussion and requires further research (Cristofori et al., 2025; Hill et al., 2017).

In the pediatric population, the number of studies on the use of the low-FODMAP diet is limited. Available reviews indicate its potential use in selected cases of functional abdominal pain, although authors emphasize the need for caution and further studies in this patient group (Pensabene et al., 2019; Rhys-Jones et al., 2022).

Despite the growing number of publications, the low-FODMAP diet still raises concerns regarding its long-term safety, effectiveness, and impact on patients' nutritional status (Bellini et al., 2020; Hill et al., 2017). This means that a critical approach to the available evidence and individualization of dietary therapy are necessary.

The aim of this study is to analyze current data on the effectiveness of the low-FODMAP diet in IBS, identify its limitations, and discuss practical implications arising from the available literature.

**Methods**

This study is a narrative literature review based on an analysis of current scientific reports concerning the use of the low-FODMAP diet in patients with IBS. The aim of the review was to assess the effectiveness of the low-FODMAP diet and to identify its limitations and consistency with current guidelines.

The literature search was conducted using databases such as PubMed and Google Scholar. The search included keywords in Polish and English, including "zespół jelita drażliwego," "low-FODMAP diet," "irritable bowel syndrome," "IBS," and "FODMAP."

Publications concerning the low-FODMAP diet in irritable bowel syndrome were included in the analysis. Original research articles, randomized controlled trials, systematic reviews, meta-analyses, and current clinical guidelines on the diagnosis and treatment of IBS were considered. Studies published between 2012 and 2026 were included. Exclusion criteria included case reports, conference abstracts, and publications without access to the full text.

The source selection process was qualitative and involved analysis of titles, abstracts, and full texts for consistency with the topic of the study. A total of 31 publications considered most relevant and consistent with the study topic were included in the review.

Basic information was extracted from the selected studies, including author, year of publication, study type, population characteristics, type of dietary intervention, duration of follow-up, and main findings regarding the effectiveness and safety of the low-FODMAP diet. Due to the narrative nature of the study, no formal meta-analysis or quantitative assessment of therapeutic effect was performed. The results were synthesized qualitatively, with particular emphasis on clinical effectiveness, comparison with other dietary strategies, the role of microbiota, data on special populations, and consistency with current clinical guidelines.

## Results

### Effectiveness of the low-FODMAP diet in reducing IBS symptoms

The analyzed studies showed that the low-FODMAP diet may reduce the severity of IBS symptoms, particularly abdominal pain, bloating, and general intestinal discomfort. In one study, patients following a low-FODMAP diet achieved significantly lower IBS symptom severity scores compared with a control diet, confirming the short-term effectiveness of this intervention (Halmos et al., 2014).

Similar conclusions were presented in another study comparing the low-FODMAP diet with traditional dietary advice used in patients with IBS. Both interventions led to significant symptom improvement; however, no clear superiority of the low-FODMAP diet over standard dietary management was demonstrated (Böhn et al., 2015). These results suggest that the low-FODMAP diet is effective, but its effect may be comparable to other well-conducted dietary interventions.

Another analyzed study also observed significant clinical improvement after the use of the low-FODMAP diet in adult patients with IBS (Alrasheedi et al., 2026). The authors noted, however, that interpretation of the results should take into account the study design, duration of the intervention, and the need for appropriate dietary supervision.

In the pediatric population, the results are less conclusive. One randomized clinical trial showed that the low-FODMAP diet reduced IBS symptoms and improved quality of life in children compared with a control diet (Ezaby et al., 2024). In contrast, another randomized study involving children with IBS and functional abdominal pain not otherwise specified (FAP-NOS) did not show significant differences in clinical response rates between the low-FODMAP group and the control group, despite observed improvement in some symptoms, including abdominal pain (Stróżyk et al., 2026).

In summary, current data indicate that the low-FODMAP diet may be an effective method for reducing IBS symptoms, particularly in the short term and in adult patients. In the pediatric population, the effects are more variable, and the lack of clear superiority over other dietary strategies indicates the need for further research (Alrasheedi et al., 2026; Böhn et al., 2015; Ezaby et al., 2024; Halmos et al., 2014; Stróżyk et al., 2026).

### Factors influencing clinical response

Clinical response to the low-FODMAP diet is variable and may depend on biological and clinical factors. One of the most frequently analyzed factors is the composition of the gut microbiota. In a randomized study involving pediatric patients with IBS, specific microbiome characteristics were shown to be associated with response to the low-FODMAP diet (Böhn et al., 2015). The authors identified differences in microbiota composition between responders and non-responders, suggesting a potential role of microbiota as a predictive biomarker. However, the study does not allow specific strains to be identified as universal markers of response (Chumpitazi et al., 2015).

The possibility of increasing the effectiveness of the low-FODMAP diet by adding probiotics has also been analyzed. A placebo-controlled randomized trial assessed the effect of probiotic supplementation as an adjunct to the low-FODMAP diet (Turan et al., 2021). The results indicated that the diet itself reduced IBS symptoms, whereas the addition of probiotics did not produce a statistically significant additional clinical improvement compared with placebo (Turan et al., 2021). These data do not support the routine use of probiotics as a standard supplement to the low-FODMAP diet.

In the context of coexisting small intestinal bacterial overgrowth (SIBO), it has been shown that the low-FODMAP diet may reduce symptoms both in patients with and without SIBO (Bogdanowska-Charkiewicz, Górski, et al., 2026). No clear differences in intervention effectiveness were found between these groups, suggesting that the presence of SIBO does not exclude potential benefits from using the low-FODMAP diet (Bogdanowska-Charkiewicz, Górski, et al., 2026).

Based on current data, it can be stated that response to the low-FODMAP diet may be partly determined by individual characteristics of the gut microbiota. At the same time, current studies do not clearly confirm any additional benefit from routinely combining this diet with probiotics, and the presence of SIBO is not a contraindication to its use.

**Comparison with other dietary strategies**

In the study by Böhn et al., the low-FODMAP diet was compared with traditional dietary advice in patients with IBS (Böhn et al., 2015). Both interventions resulted in significant symptom improvement, and the proportion of patients achieving a clinically significant response was similar in both groups. No significant differences were demonstrated between the effects of the low-FODMAP diet and classical dietary advice, indicating that traditional dietary management may represent a less restrictive alternative, especially in the earlier stages of treatment (Böhn et al., 2015).

Another comparative strategy was a Tritordeum-based diet, evaluated in patients with diarrhea-predominant IBS (IBS-D) (Russo et al., 2022). In the study by Russo et al., both the low-FODMAP diet and the Tritordeum-based diet reduced gastrointestinal symptoms and improved quality of life. No statistically significant differences were found between the groups in total IBS symptom severity, suggesting similar effectiveness of both interventions (Russo et al., 2022).

Based on the available study results, it can be concluded that the low-FODMAP diet is effective in reducing IBS symptoms; however, its superiority over other dietary strategies is not fully established. The choice of intervention should take into account symptom severity and patient preferences, as well as the ability to adhere to recommendations and access to dietary support.

**Long-term effectiveness and the reintroduction phase**

A study assessing long-term control of IBS symptoms after reintroduction of selected FODMAPs showed that the improvement achieved after the elimination phase may be maintained after selected foods are reintroduced (Harvie et al., 2017). After diet personalization, no significant worsening of symptoms was observed compared with the elimination period, indicating that long-term effectiveness does not require complete and permanent restriction of all FODMAPs (Harvie et al., 2017).

The reintroduction phase allows for greater dietary variety and helps determine individual tolerance thresholds for specific FODMAP groups (Harvie et al., 2017). This is clinically important because it reduces the risk of excessive dietary restrictions and facilitates long-term adherence to recommendations.

Available data confirm the importance of the three-phase model, consisting of elimination, reintroduction, and personalization. Omitting the reintroduction phase may lead to unnecessary dietary restrictions and potential nutritional deficiencies (Harvie et al., 2017).

**Use in special clinical populations**

**Pediatric population with IBS**

Randomized clinical trials involving children with irritable bowel syndrome indicate the potential effectiveness of the low-FODMAP diet, although the results are not fully conclusive. A study conducted in Egypt showed that following the diet for 6 weeks was associated with a significant reduction in IBS symptom severity and improved quality of life compared with a standard diet (Ezaby et al., 2024).

Similarly, the study by Doğan et al. reported a significant reduction in abdominal pain severity after the use of the low-FODMAP diet compared with a control diet in the pediatric population (Stróżyk et al., 2026).

In contrast, a randomized trial that was terminated early did not show significant differences in the primary endpoint, namely the proportion of treatment responders, between groups, although a trend toward greater reduction in abdominal pain was observed in the low-FODMAP group (Dogan et al., 2020). The authors indicated that limited sample size and difficulties with adherence to the diet may have influenced the results.

**The role of the microbiome in response to the diet**

A study analyzing the relationship between the gut microbiome and response to the diet showed that microbiota composition before the start of the intervention may be associated with clinical outcomes. Differences in microbiological profiles were observed between responders and non-responders to the low-FODMAP diet, suggesting a potential role of the microbiome as a factor modifying therapeutic response (Chumpitazi et al., 2015).

**Children and adolescents with disorders of gut–brain interaction**

Observational data indicate that the low-FODMAP diet may be used in children and adolescents with disorders of gut–brain interaction (DGBI); however, the quality of evidence is lower than that from randomized trials. A retrospective analysis of clinical records found that some patients reported symptom improvement after implementing the diet, although the absence of a control group limits definitive interpretation of the results (Brown et al., 2019).

Similar conclusions were presented in a study involving pediatric patients with various disorders of the gut–brain axis, where symptom reduction was also observed, while emphasizing the need for individualized dietary management and monitoring of outcomes (Raja et al., 2025).

**Nutritional aspects in children with functional abdominal pain**

A study concerning children with functional abdominal pain showed that reducing FODMAP intake is possible; however, changes in diet quality and nutrient intake were moderate. The authors emphasized the importance of nutritional monitoring during elimination diets, particularly in the pediatric population (Narayana et al., 2022).

**Adults with ulcerative colitis in remission and IBS symptoms**

A randomized pilot feasibility study involving patients with ulcerative colitis in remission and coexisting IBS symptoms evaluated the impact of the low-FODMAP diet and subsequent food challenges. The study showed that implementation of the diet is feasible; however, the sample size was limited, and the results do not allow clear conclusions regarding clinical effectiveness. The authors emphasized the need for further studies in this population (Melgaard et al., 2022).

**Partial conclusions**

Available data indicate that the low-FODMAP diet may be effective in reducing IBS symptoms in children; however, randomized study results are heterogeneous. Potential clinical benefits are observed in pediatric populations, but their interpretation should take methodological limitations into account, including small sample sizes and difficulties with adherence. In other clinical populations, such as patients with inflammatory bowel disease in remission, the evidence is limited, and further studies are needed.

**Consistency with clinical guidelines**

Analysis of current clinical guidelines indicates general agreement regarding the use of the low-FODMAP diet in the treatment of irritable bowel syndrome (IBS), while emphasizing its limitations and the need for appropriate supervision.

The American College of Gastroenterology (ACG) guidelines recommend the use of the low-FODMAP diet in patients with IBS to reduce overall symptoms. However, this recommendation is conditional, and the quality of evidence is rated as very low. The ACG emphasizes that the diet should be used as a temporary intervention rather than a long-term elimination strategy (Lacy et al., 2021).

A similar position is presented in the British Society of Gastroenterology (BSG) guidelines, which identify the low-FODMAP diet as an effective therapeutic option, but not as the first-line dietary approach. Simpler modifications are recommended first, such as regular meals and reduced caffeine or fat intake; only if these are ineffective should the low-FODMAP diet be introduced (Vasant et al., 2021). The BSG also clearly states that the diet should be supervised by a qualified dietitian and implemented in stages — elimination, reintroduction, and personalization — to reduce the risk of excessive restrictions and nutritional deficiencies (Vasant et al., 2021).

The Korean Society of Neurogastroenterology and Motility guidelines within the Seoul Consensus 2025 confirm the effectiveness of the low-FODMAP diet in reducing IBS symptoms, including abdominal pain and bloating, and support its use in clinical practice. At the same time, they emphasize the importance of a structured approach, including the three phases of the diet, and the need to individualize dietary recommendations (Choi et al., 2025). The guidelines also indicate the need for patient education when access to dietitians is limited (Choi et al., 2025).

In the pediatric population, the position of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) is more restrictive. The low-FODMAP diet is not routinely recommended in children with IBS due to the limited number of high-quality studies. It may be considered only in selected cases, for a short period, and only under specialist supervision, with particular attention to the risk of nutritional deficiencies and impact on child development (Thomassen et al., 2022).

In summary, all analyzed guidelines agree that the low-FODMAP diet is a justified therapeutic option in IBS, particularly in adult patients. At the same time, its use should be time-limited, implemented in stages, and supervised by a dietitian. In the pediatric population, recommendations are more cautious, reflecting the insufficient quality of available evidence (Choi et al., 2025; Lacy et al., 2021; Thomassen et al., 2022; Vasant et al., 2021).

## Discussion

### Interpretation of the effectiveness of the low-FODMAP diet

The low-FODMAP diet is among the best-studied dietary interventions in IBS. Most randomized trials and systematic reviews indicate its beneficial effect on symptom reduction, especially bloating, abdominal pain, and general intestinal discomfort (Alrasheedi et al., 2026; Halmos et al., 2014; Kuźmin et al., 2025; Magge & Lembo, 2012). At the same time, the effectiveness of this intervention should be interpreted with caution, as meta-analyses emphasize study heterogeneity, differences in research designs, and the limited quality of some evidence (Bogdanowska-Charkiewicz, Malinowska, et al., 2026; Kuźmin et al., 2025).

It is also important that the low-FODMAP diet does not always show superiority over traditional dietary advice (Böhn et al., 2015). This may mean that part of the therapeutic effect results from an overall improvement in diet quality, restriction of symptom-triggering foods, or increased patient attention to eating habits, rather than solely from FODMAP elimination. For this reason, the low-FODMAP diet should be regarded as one dietary treatment option rather than a universal first-choice strategy for all patients with IBS.

### Mechanisms of action and heterogeneity of response

The mechanism of action of the low-FODMAP diet is physiologically well justified. Restriction of fermentable carbohydrates may reduce gas production and the amount of water in the intestinal lumen, leading to symptom reduction in some patients (Bellini et al., 2020; Magge & Lembo, 2012). However, this mechanism does not fully explain the variability in clinical response.

IBS is a multifactorial disorder in which visceral hypersensitivity, disturbances of the gut–brain axis, altered intestinal motility, and psychosocial factors play important roles (Sood et al., 2017). The low-FODMAP diet primarily affects the intestinal component of the disease; therefore, in some patients it may be insufficient as the only form of treatment. In clinical practice, this indicates the need to combine dietary interventions with other therapeutic methods, depending on dominant symptoms and patient profile.

### Impact on gut microbiota

One of the most important limitations of the low-FODMAP diet is its potential impact on the gut microbiota. Reduced intake of fermentable carbohydrates may not only reduce symptoms but also decrease the availability of substrates for gut bacteria considered beneficial (Cristofori et al., 2025; Zhang & Su, 2025). Some studies have observed reductions in selected bacterial populations, raising concerns about the long-term safety of the restrictive phase of the diet (Cristofori et al., 2025; Zhang & Su, 2025).

The clinical significance of these changes remains incompletely understood. Observations suggesting an association between baseline microbiota profile and response to the low-FODMAP diet indicate the potential for treatment personalization (Chumpitazi et al., 2015). At present, however, these data are preliminary and cannot yet form the basis for routine clinical decisions.

In this context, the three-phase model — elimination, reintroduction, and personalization — becomes particularly important. Such an approach limits the duration of dietary restriction, increases dietary diversity, and may reduce the risk of unfavorable microbiota changes (Choi et al., 2025; Harvie et al., 2017; Lacy et al., 2021; Vasant et al., 2021).

### Limitations of available evidence

The current state of knowledge regarding the low-FODMAP diet in IBS is promising but affected by significant limitations. Many studies are characterized by short follow-up periods, small sample sizes, differences in intervention protocols, and heterogeneous endpoints (Bogdanowska-Charkiewicz, Malinowska, et al., 2026; Kuźmin et al., 2025). This makes direct comparison of results difficult and limits the ability to draw strong conclusions regarding long-term effectiveness.

Another limitation is the insufficient amount of data concerning the reintroduction and personalization phases. Most studies focus on the short elimination phase, whereas in clinical practice, the ability to expand the diet and maintain symptom control in the long term is crucial (Choi et al., 2025; Harvie et al., 2017).

Particular caution is required when using the diet in children, patients with SIBO, and individuals with inflammatory bowel disease in remission. In these groups, the number of studies is limited, and the results are inconclusive (Bogdanowska-Charkiewicz, Górski, et al., 2026; Dogan et al., 2020; Ezaby et al., 2024; Stróżyk et al., 2026).

### Practical implications

In clinical practice, the low-FODMAP diet should be used as a staged intervention, including a short elimination phase, controlled reintroduction, and final personalization of recommendations (Choi et al., 2025; Dogan et al., 2020; Lacy et al., 2021; Vasant et al., 2021). This approach helps reduce excessive dietary restriction and adapt the diet to the patient's individual tolerance.

The diet may be particularly useful in patients with predominant bloating, abdominal pain, and diarrhea, especially when basic dietary advice does not provide sufficient improvement (Böhn et al., 2015; Halmos et al., 2014). Given the comparable effectiveness of some less restrictive dietary strategies, the decision to implement the low-FODMAP diet should take into account patient preferences, ability to follow recommendations, risk of deficiencies, and access to specialist support.

Supervision by a qualified dietitian is important both for proper implementation of the elimination phase and for safe food reintroduction (Lacy et al., 2021; Vasant et al., 2021). Extending the elimination phase without clinical justification is not recommended, as it may increase the risk of unnecessary dietary restrictions.

**Directions for future research**

Future studies should focus on identifying predictors of response to the low-FODMAP diet, including potential microbiotic, clinical, and psychosocial markers. Long-term studies are also needed to assess the effectiveness and safety of the diet after the reintroduction phase, as well as its impact on microbiota, nutritional status, and quality of life.

Standardization of research protocols is also important, including intervention duration, definitions of clinical response, and symptom assessment tools. This would allow more reliable comparison of results and better determination of the role of the low-FODMAP diet in IBS treatment.

## Conclusions

The low-FODMAP diet is an effective dietary intervention in the treatment of irritable bowel syndrome in some patients, as confirmed by randomized clinical trials, systematic reviews, and meta-analyses (Alrasheedi et al., 2026; Bogdanowska-Charkiewicz, Malinowska, et al., 2026; Halmos et al., 2014; Kuźmin et al., 2025). The best-documented benefits concern short-term symptom reduction, particularly bloating, abdominal pain, and general intestinal discomfort.

At the same time, the magnitude of the therapeutic effect is moderate, and study results remain inconclusive. The lack of clear superiority over some other dietary strategies indicates that the low-FODMAP diet should not be treated as a universal first-line treatment for all patients with IBS (Bogdanowska-Charkiewicz, Malinowska, et al., 2026; Böhn et al., 2015; Russo et al., 2022).

Clinical response to the diet is variable and may depend, among other factors, on the gut microbiota profile, although the clinical significance of these observations requires further research (Chumpitazi et al., 2015). The potential impact of the diet on microbiota, its complexity, and the risk of excessive dietary restrictions justify the need to use it in a staged model: elimination, reintroduction, and personalization (Choi et al., 2025; Harvie et al., 2017; Lacy et al., 2021; Magge & Lembo, 2012; Vasant et al., 2021).

Data concerning special populations, such as children, patients with SIBO, and individuals with inflammatory bowel disease in remission, are limited and inconclusive (Bogdanowska-Charkiewicz, Górski, et al., 2026; Dogan et al., 2020; Ezaby et al., 2024; Stróżyk et al., 2026). Similarly, there is no clear evidence confirming a routine additional benefit of using probiotics together with the low-FODMAP diet (Turan et al., 2021).

In summary, the low-FODMAP diet is a justified therapeutic option in selected patients with IBS, particularly in those with persistent symptoms despite basic dietary advice. Its use should be individualized, time-limited during the elimination phase, and supervised by a specialist. Key areas for future research include identifying predictors of response, assessing long-term safety, and optimizing implementation of the diet in clinical practice (Bellini et al., 2020; Espitia et al., 2026; Hill et al., 2017).

## REFERENCES


1. Alrasheedi, A. A., et al. (2026). The effect of low-FODMAP diet on patients with irritable bowel syndrome. *Scientific Reports*. https://doi.org/10.1038/s41598-025-01163-3
2. Bellini, M., Tonarelli, S., Nagy, A. G., Pancetti, A., Costa, F., Ricchiuti, A., de Bortoli, N., Mosca, M., Marchi, S., & Rossi, A. (2020). Low FODMAP diet: Evidence, doubts, and hopes. *Nutrients, 12*(1), 148. https://doi.org/10.3390/nu12010148
3. Bogdanowska-Charkiewicz, D., Górski, P., Jurkowska, G., Środa, R., Świdnicka-Siergiejko, A., Dąbrowski, A., & Daniluk, J. (2026). Effectiveness of the low FODMAP diet in patients with irritable bowel syndrome and small intestine bacterial overgrowth syndrome. *Frontiers in Nutrition, 13*, 1725524. https://doi.org/10.3389/fnut.2026.1725524
4. Bogdanowska-Charkiewicz, D., Malinowska, U., & Daniluk, J. (2026). An umbrella review of meta-analyses on the low-FODMAP diet in IBS. *Frontiers in Nutrition, 12*, 1714281. https://doi.org/10.3389/fnut.2025.1714281
5. Böhn, L., Störsrud, S., Liljebo, T., Collin, L., Lindfors, P., Törnblom, H., & Simrén, M. (2015). Diet low in FODMAPs reduces symptoms of irritable bowel syndrome as well as traditional dietary advice: A randomized controlled trial. *Gastroenterology, 149*(6), 1399–1407.e2. https://doi.org/10.1053/j.gastro.2015.07.054
6. Brown, S. C., Whelan, K., Gearry, R. B., & Day, A. S. (2019). Low FODMAP diet in children and adolescents with functional bowel disorder: A clinical case note review. *JGH Open: An Open Access Journal of Gastroenterology and Hepatology, 4*(2), 153–159. https://doi.org/10.1002/jgh3.12231
7. Choi, Y., Youn, Y. H., Kang, S. J., Shin, J. E., Cho, Y. S., Jung, Y. S., Shin, S. Y., Huh, C. W., Lee, Y. J., Koo, H. S., Nam, K., Lee, H. S., Kim, D. H., Park, Y. H., Kim, M. C., Song, H. Y., Yoon, S.-H., Lee, S. Y., Choi, M., … Sung, I.-K. (2025). 2025 Seoul consensus on clinical practice guidelines for irritable bowel syndrome. *Journal of Neurogastroenterology and Motility, 31*(2), 133–169. https://doi.org/10.5056/jnm25007
8. Chumpitazi, B. P., Cope, J. L., Hollister, E. B., Tsai, C. M., McMeans, A. R., Luna, R. A., Versalovic, J., & Shulman, R. J. (2015). Randomised clinical trial: Gut microbiome biomarkers are associated with clinical response to a low FODMAP diet in children with irritable bowel syndrome. *Alimentary Pharmacology & Therapeutics, 42*(4), 418–427. https://doi.org/10.1111/apt.13286
9. Cristofori, F., Castellaneta, S., Dargenio, C., Paulucci, L., Lagrasta, G., Barone, M., Francavilla, R., & Dargenio, V. N. (2025). Unlocking the potential of the low FODMAP diet: Comprehensive insights into clinical efficacy, microbiome modulation, and beyond. *Expert Review of Gastroenterology & Hepatology, 19*(7), 767–787. https://doi.org/10.1080/17474124.2025.2519160
10. Dogan, G., Yavuz, S., Aslantas, H., Ozyurt, B. C., & Kasirga, E. (2020). Is low FODMAP diet effective in children with irritable bowel syndrome? *Northern Clinics of Istanbul, 7*(5), 433–437. https://doi.org/10.14744/nci.2020.40326
11. Espitia, O. L. P., Barrera-Mojica, M. C., Moya, P. S. C., Zuleta, M. A. G., & Mejía, A. C. (2026). Eficacia e implementación clínica de la dieta baja en FODMAP en el síndrome de intestino irritable: Revisión sistemática. *Revista Colombiana de Gastroenterología, 41*(1), 62–77. https://doi.org/10.22516/25007440.1386
12. Ezaby, S. A. E., Manzour, A. F., Eldeeb, M., Gendy, Y. G. E., Hamid, D. M. A., Ezaby, S. E., Manzour, A. F., Eldeeb, M., Gendy, Y. E., & Hamid, D. M. A. (2024). Effect of the low fermentable oligosaccharides, disaccharides, monosaccharides, and polyols (FODMAP) diet on control of pediatric irritable bowel syndrome and quality of life among a sample of Egyptian children: A randomized controlled clinical trial. *Cureus, 16*(5), e61017. https://doi.org/10.7759/cureus.61017
13. Halmos, E. P., Power, V. A., Shepherd, S. J., Gibson, P. R., & Muir, J. G. (2014). A diet low in FODMAPs reduces symptoms of irritable bowel syndrome. *Gastroenterology, 146*(1), 67–75.e5. https://doi.org/10.1053/j.gastro.2013.09.046
14. Harvie, R. M., Chisholm, A. W., Bisanz, J. E., Burton, J. P., Herbison, P., Schultz, K., & Schultz, M. (2017). Long-term irritable bowel syndrome symptom control with reintroduction of selected FODMAPs. *World Journal of Gastroenterology, 23*(25), 4632–4643. https://doi.org/10.3748/wjg.v23.i25.4632
15. Hill, P., Muir, J. G., & Gibson, P. R. (2017). Controversies and recent developments of the low-FODMAP diet. *Gastroenterology & Hepatology, 13*(1), 36–45.
16. Kuźmin, L., Kubiak, K., & Lange, E. (2025). Efficacy of a low-FODMAP diet on the severity of gastrointestinal symptoms and quality of life in the treatment of gastrointestinal disorders—A systematic review of randomized controlled trials. *Nutrients, 17*(12), 2045. https://doi.org/10.3390/nu17122045
17. Lacy, B. E., Pimentel, M., Brenner, D. M., Chey, W. D., Keefer, L. A., Long, M. D., & Moshiree, B. (2021). ACG clinical guideline: Management of irritable bowel syndrome. *The American Journal of Gastroenterology, 116*(1), 17–44. https://doi.org/10.14309/ajg.0000000000001036
18. Lucas Zapata, P., García Navarro, E., & Ribes Koninckx, C. (2024). The low-FODMAP diet. *Anales de Pediatría (English Edition), 101*(1), 36–45. https://doi.org/10.1016/j.anpede.2024.06.005
19. Magge, S., & Lembo, A. (2012). Low-FODMAP diet for treatment of irritable bowel syndrome. *Gastroenterology & Hepatology, 8*(11), 739–745.

20. Melgaard, D., Sørensen, J., Riis, J., Ovesen, T. S., Leutscher, P., Sørensen, S., Knudsen, J. K., Bundgaard-Nielsen, C., Ejstrup, J., Jensen, A.-M., Borre, M., & Krarup, A. L. (2022). Efficacy of FODMAP elimination and subsequent blinded placebo-controlled provocations in a randomised controlled study in patients with ulcerative colitis in remission and symptoms of irritable bowel syndrome: A feasibility study. *Nutrients, 14*(6), 1296. https://doi.org/10.3390/nu14061296
21. Narayana, V., McMeans, A. R., Levy, R. L., Shulman, R. J., & Chumpitazi, B. P. (2022). Children with functional abdominal pain disorders successfully decrease FODMAP food intake on a low FODMAP diet with modest improvements in nutritional intake and diet quality. *Neurogastroenterology & Motility, 34*(10), e14392. https://doi.org/10.1111/nmo.14392
22. Pensabene, L., Salvatore, S., Turco, R., Tarsitano, F., Concolino, D., Baldassarre, M. E., Borrelli, O., Thapar, N., Vandenplas, Y., Staiano, A., & Saps, M. (2019). Low FODMAPs diet for functional abdominal pain disorders in children: Critical review of current knowledge. *Jornal de Pediatria, 95*(6), 642–656. https://doi.org/10.1016/j.jped.2019.03.004
23. Raja, S., Teitelbaum, J. E., Pereira, K., Guli, K., & Schosheim, A. (2025). Efficacy of low FODMAP diet in pediatric patients with disorders of gut–brain interaction. *JPGN Reports, 6*(2), 75–79. https://doi.org/10.1002/jpr3.12157
24. Rhys-Jones, D., Varney, J. E., Muir, J. G., Gibson, P. R., & Halmos, E. P. (2022). Application of the FODMAP diet in a paediatric setting. *Nutrients, 14*(20), 4369. https://doi.org/10.3390/nu14204369
25. Russo, F., Riezzo, G., Orlando, A., Linsalata, M., D'Attoma, B., Prospero, L., Ignazzi, A., & Giannelli, G. (2022). A comparison of the low-FODMAPs diet and a Tritordeum-based diet on the gastrointestinal symptom profile of patients suffering from irritable bowel syndrome-diarrhea variant (IBS-D): A randomized controlled trial. *Nutrients, 14*(8), 1544. https://doi.org/10.3390/nu14081544
26. Sood, R., Foy, R., & Ford, A. C. (2017). Making a positive diagnosis of irritable bowel syndrome. *The British Journal of General Practice, 67*(665), 580–581. https://doi.org/10.3399/bjgp17X693857
27. Stróżyk, A., Horvath, A., Kozłowska-Jalowska, A., Muir, J., & Szajewska, H. (2026). Efficacy of a low-FODMAP diet in children with irritable bowel syndrome and functional abdominal pain–not otherwise specified: A randomized controlled trial with early termination. *Frontiers in Pediatrics, 14*, 1809053. https://doi.org/10.3389/fped.2026.1809053
28. Thomassen, R. A., Luque, V., Assa, A., Borrelli, O., Broekaert, I., Dolinsek, J., Martin-de-Carpi, J., Mas, E., Miele, E., Norsa, L., Ribes-Koninckx, C., Saccomani, M. D., Thomson, M., Tzivinikos, C., Verduci, E., Bronsky, J., Haiden, N., Köglmeier, J., de Koning, B., & Benninga, M. A. (2022). An ESPGHAN position paper on the use of low-FODMAP diet in pediatric gastroenterology. *Journal of Pediatric Gastroenterology and Nutrition, 75*(3), 356–368. https://doi.org/10.1097/MPG.0000000000003526
29. Turan, B., Bengi, G., Cehreli, R., Akpınar, H., & Soytürk, M. (2021). Clinical effectiveness of adding probiotics to a low FODMAP diet: Randomized double-blind placebo-controlled study. *World Journal of Clinical Cases, 9*(25), 7417–7432. https://doi.org/10.12998/wjcc.v9.i25.7417
30. Vasant, D. H., Paine, P. A., Black, C. J., Houghton, L. A., Everitt, H. A., Corsetti, M., Agrawal, A., Aziz, I., Farmer, A. D., Eugenicos, M. P., Moss-Morris, R., Yiannakou, Y., & Ford, A. C. (2021). British Society of Gastroenterology guidelines on the management of irritable bowel syndrome. *Gut, 70*(7), 1214–1240. https://doi.org/10.1136/gutjnl-2021-324598
31. Zhang, H., & Su, Q. (2025). Low-FODMAP diet for irritable bowel syndrome: Insights from microbiome. *Nutrients, 17*(3), 544. https://doi.org/10.3390/nu17030544