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THE IMPORTANCE OF FODMAP-RESTRICTIVE DIET IN THE TREATMENT OF IRRITABLE BOWEL SYNDROME

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Vitória Carolina Araújo Rocha do Amaral Correia

ABSTRACT

Irritable Bowel Syndrome (IBS) is a chronic functional gastrointestinal condition characterized by abdominal pain, distension, gas, and changes in intestinal transit, significantly impacting the quality of life of patients. Among the available therapeutic approaches, the low-FODMAP diet has stood out as an effective strategy for managing IBS symptoms, reducing intestinal fermentation and promoting greater control of digestive discomfort. This study aims to analyze the importance of a FODMAP-restrictive diet in the treatment of IBS, considering its clinical efficacy, nutritional impacts, and the need for professional follow-up to avoid nutritional deficits. The results indicate that approximately 70% of patients who adhere to the low-FODMAP diet show significant improvement in gastrointestinal symptoms, in addition to psychological and social benefits, making this approach one of the most recommended in clinical practice. However, the need for individualization of the diet and adequate nutritional monitoring to ensure safety and long-term sustainability is emphasized. It is concluded that the low-FODMAP diet represents a significant advance in the treatment of IBS, providing substantial improvements in the quality of life of patients and reducing dependence on drug treatments.

Keywords: Irritable Bowel Syndrome. Low FODMAP diet. Intestinal fermentation. Clinical nutrition. Gastrointestinal symptoms.

INTRODUCTION

Irritable Bowel Syndrome (IBS) is a chronic condition that significantly affects the daily lives of patients due to the recurrence of uncomfortable gastrointestinal symptoms, such as abdominal pain, flatulence, distension, and frequent changes in bowel habits, ranging from diarrhea to constipation, impairing quality of life in emotional, social, and professional aspects (CHAN; GONZALES; LOBO, 2021). In view of the complexity of this syndrome and the challenges in diagnosis and treatment, nutritional approaches have gained prominence, especially the FODMAP-restrictive diet, which has been shown to be increasingly efficient in reducing characteristic symptoms, providing significant relief and well-being to patients (SANTOS; FERREIRA, 2022).

In recent years, scientific studies have recognized the importance of specific dietary approaches, among which the low-FODMAP diet (Fermentable Oligosaccharides, Disaccharides, Monosaccharides, and Polyols) is widely recommended, as such fermentable carbohydrates are often related to the worsening of gastrointestinal symptoms in IBS, especially due to their difficult absorption in the small intestine, which leads to fermentation in the colon and triggers characteristic symptoms such as gas, bloating and abdominal discomfort (ANDRADE; SIMÕES, 2021). Thus, the reduction of foods rich in these components has shown significant results, becoming a therapeutic alternative that helps both in the reduction of physical symptoms and in the emotional recovery of patients (CHAN; GONZALES; LOBO, 2021).

The FODMAP restrictive diet, therefore, consists of the temporary and monitored limitation of the intake of specific foods, such as some types of fruits, vegetables, grains, dairy products, and highly fermentable foods, followed by gradual reintroduction of these foods, aiming to identify the specific triggers in each patient, thus ensuring an individualized and effective treatment (SANTOS; FERREIRA, 2022). Although effective, this diet requires constant professional monitoring, especially nutritional, to prevent imbalances and nutritional deficiencies that may arise in the long term, which further reinforces the importance of constant clinical monitoring throughout the treatment process (PEREIRA, 2021).

It is noteworthy that there is a need to educate the patient about the fundamentals of the low-FODMAP diet, since, without this understanding, it is common to abandon or not adhere adequately to the dietary protocol, resulting in the return or worsening of gastrointestinal symptoms (CHAN; GONZALES; LOBO, 2021). Thus, the success of the treatment depends both on strict adherence to nutritional guidelines and on the patient's

knowledge and active engagement throughout the process, which makes nutritional education a central pillar of this therapeutic management.

For this, an accurate and adequate diagnosis of IBS is necessary, made by well-defined clinical criteria, such as the Rome IV criteria, facilitating the clear recognition of symptoms that can be directly benefited by the adoption of the restrictive FODMAP diet (PEREIRA, 2021). In addition, the nutritionist must establish well-defined steps in the application of this diet, which are divided into total elimination, controlled reintroduction and personalized adaptation, allowing the identification of individual tolerances and ensuring the maintenance of nutritional health in the long term (SANTOS; FERREIRA, 2022).

Therefore, considering the context described and the growing relevance of the FODMAP-restrictive diet as an efficient therapeutic strategy, this article has as its main objective to critically analyze the importance and efficacy of this diet in the management of gastrointestinal symptoms of Irritable Bowel Syndrome, highlighting its clinical and social implications, in addition to emphasizing the role of nutrition in improving the quality of life of these patients (CHAN; GONZALES; LOBO, 2021).

Thus, it is hoped that this study will contribute to broaden the understanding of this nutritional intervention, favoring its effective incorporation into clinical practice and stimulating future research that can further deepen the understanding of the use of the restrictive FODMAP diet in the treatment of IBS, allowing increasingly effective and humanized approaches for patients suffering from this syndrome (PEREIRA, 2021).

THEORETICAL FRAMEWORK

IRRITABLE BOWEL SYNDROME AND ITS IMPACTS

Irritable Bowel Syndrome (IBS) is a chronic functional gastrointestinal disorder that significantly affects patients' quality of life. Each subtype of IBS can present with different symptoms, so its treatment should be based on this subtype and its severity. The recent emergence of the Rome IV criterion has eliminated the use of the term "non-specific discomfort" of IBS for IBS with diarrhea-predominant (IBS-D), IBS with constipation-predominant (IBS-C), and IBS with mixed symptoms (IBS-M) (LARUSSA *et al.*, 2019). Thus, IBS can manifest itself through symptoms such as recurrent abdominal pain, distension, flatulence, and changes in bowel habits, oscillating between diarrhea and constipation, in addition to other discomforts that compromise daily activities, generating insecurity and social, professional, and psychological limitations (CHAN; GONZALES; LOBO, 2021).

The pathophysiology of IBS, although not yet completely elucidated, is possible that it involves visceral hypersensitivity, low-grade inflammation of the digestive system, changes in intestinal motility, intestinal microbiota, and changes in the gut-brain axis (VAN LANEN; BREE; GREYLING, 2021). Its diagnosis can be made using the Rome IV Criteria, which establish clinical parameters for the identification of symptoms associated with the disease and their persistence over time, without association with identifiable structural pathologies (CHAN; GONZALES; LOBO, 2021).

Although it does not present a risk of death or progression to more serious diseases, IBS generates substantial impacts on the physical and mental health of individuals, as the symptoms, when not controlled, directly affect the ability to work, social interactions, and the emotional well-being of patients, who often live with constant discomfort, fear of unexpected events, and the need for dietary restrictions without adequate planning, which can lead to nutritional deficiencies, further aggravating the condition, since many patients, in an attempt to minimize symptoms, adopt extremely restrictive diets without professional guidance, compromising the intake of essential nutrients and triggering other health problems (SANTOS; FERREIRA, 2022).

Research shows that the triggering factors of IBS are multifactorial, including genetic predisposition, alterations in the gut-brain axis, visceral hypersensitivity, and dysfunctions in the intestinal microbiota, in addition to stress, anxiety, and environmental factors that intensify symptoms, which demonstrates the complexity of the condition and the need for integrated therapeutic approaches that combine nutritional strategies, psychological support, and, in some cases, pharmacotherapy, with the objective of minimizing the impacts of the syndrome on the daily lives of patients, promoting better management of symptoms and ensuring a higher quality of life in the long term (ANDRADE; SIMÕES, 2021).

The relationship between diet and IBS has been widely studied, as many patients report worsening symptoms after consuming certain foods, especially those rich in fermentable carbohydrates, which are known to intensify gas production and increase fluid retention in the gastrointestinal tract, leading to abdominal distension, discomfort, and changes in intestinal transit, which justifies the growing adoption of the FODMAP-restrictive diet as a strategy to control IBS, considering that its effectiveness has been proven by several scientific studies, which point to significant reductions in symptoms in patients who correctly adhere to the approach (PEREIRA, 2021).

THE ROLE OF THE LOW FODMAP DIET IN THE TREATMENT OF IBS

The low-FODMAP diet has been widely recommended for IBS patients due to its potential to reduce uncomfortable gastrointestinal symptoms by relying on the temporary exclusion of certain fermentable carbohydrates, such as oligosaccharides, disaccharides, monosaccharides, and polyols, which are poorly absorbed in the small intestine and fermented in the colon, causing excessive gas production and fluid retention, factors directly linked to the worsening of IBS symptoms, and, for this reason, adherence to this dietary approach can provide significant symptomatic relief, especially when the elimination of foods rich in these compounds is done judiciously, accompanied by a specialized professional and reintroduced gradually, respecting the individual tolerance of each patient (CHAN; GONZALES; LOBO, 2021).

Foods containing FODMAPs include a wide variety of vegetables, legumes, fruits, cereals, and dairy products, and careful dietary planning is necessary to ensure that the exclusion of these compounds does not result in nutritional deficiencies, as inadequate food consumption during the restriction phase can lead to important deficiencies, negatively impacting the patient's nutritional status and impairing the functioning of the body in the long term, it is important that the diet is applied individually, considering the dietary history, preferences and nutritional needs of each individual (SANTOS; FERREIRA, 2022).

The structure of the low-FODMAP diet is divided into three phases: the elimination phase, which lasts between four and six weeks, consists of the total exclusion of foods rich in these fermentable carbohydrates; the reintroduction phase, in which foods are gradually added back into the diet to assess which are well tolerated and which cause adverse symptoms; and the maintenance phase, which seeks an adequate dietary balance, allowing the patient to consume a greater variety of foods without compromising their intestinal health, ensuring that the restrictive diet is sustainable and safe in the long term (PEREIRA, 2021).

The British Dietetic Association details some recommended nutritional interventions, such as having three meals and three snacks a day, never in large quantities, nor in small quantities; to eat in quiet places; avoid foods high in fat or spicy, alcoholic beverages, coffee, onions, cabbage and carbonated drinks. Recommending fiber consumption may improve symptoms in some IBS subgroups and worsen in others.

Studies show that adherence to the low-FODMAP diet can result in significant symptomatic improvement for most patients, reducing gastrointestinal discomfort, and improving emotional and psychological aspects, as the reduction of symptoms provides more confidence and security to the patient, allowing greater freedom to perform daily,

social and professional activities without the fear of unexpected episodes of pain or distension, which directly reflects on quality of life and general well-being, making this approach one of the most effective and recommended for the management of IBS (ANDRADE; SIMÕES, 2021).

Although the effectiveness of the diet is widely recognized, its success depends on patient adherence and expert follow-up, as its incorrect application can lead to the unnecessary exclusion of important foods, compromising the intake of essential nutrients and resulting in negative long-term health impacts, ensuring that the patient obtains the benefits of the diet without compromising their nutritional status, allowing a safe and effective treatment of IBS based on consolidated scientific evidence (SANTOS; FERREIRA, 2022).

EFFECTS OF LOW FODMAP DIET ON GASTROINTESTINAL SYMPTOMS

The adoption of the low-FODMAP diet has been shown to be one of the most effective strategies for controlling the symptoms of Irritable Bowel Syndrome (IBS), as the temporary restriction of these fermentable carbohydrates significantly reduces the production of intestinal gases, reducing abdominal distension and relieving pain episodes, this being an approach based on the exclusion of specific foods for a certain period of time, followed by the gradual reintroduction of food groups to assess the individual tolerance of each patient and adjust the diet according to the nutritional needs and clinical response observed (PEREIRA, 2021).

Several popular foods present in the diet are high in FODMAP, such as fruits (apples, pears, peaches, and watermelons), vegetables (onions, garlic, squash, and mushrooms), dairy products, grains (wheat and rye), and sweeteners (polyols). These can cause symptoms through two main mechanisms, the first states that FODMAPs are unabsorbed and osmotically active molecules, so they increase the intralumial water content in the small intestine, leading to abdominal distension and generating discomfort. The second mechanism is the "large intestine hypothesis", where FODMAPs arrive in the colon unabsorbed and are rapidly fermented by colonic bacteria, generating gas production and distension of the colonic wall (VARJÚ *et al.*, 2017).

The relationship between a low-FODMAP diet and the reduction of IBS symptoms has been widely investigated, where studies have shown that the exclusion of these carbohydrates from the diet promotes symptomatic improvement in up to 70% of patients, providing substantial and prolonged relief from gastrointestinal discomfort. The effectiveness of this approach is often associated with decreased gas production, reduced

distension, and improved bowel rhythm, ensuring not only a decrease in the frequency and intensity of symptoms, but also positively impacting the quality of life of individuals living with this condition (SANTOS; FERREIRA, 2022).

In addition to reducing abdominal pain and distension, the low-FODMAP diet contributes to the balance of intestinal transit, because, by reducing osmolarity in the intestinal lumen, it prevents episodes of diarrhea and improves constipation, which is one of the great challenges faced by patients with IBS, since the unpredictability of bowel habit is one of the factors that most impair the routine and emotional stability of these people, which is why adherence to a more controlled diet represents a viable and safe alternative to minimize intestinal oscillations and provide greater predictability in digestion and evacuation (ANDRADE; SIMÕES, 2021).

The improvement of gastrointestinal symptoms, however, does not occur only through the elimination of fermentable foods, but also through the positive impact of diet on the intestinal microbiota, since the temporary restriction of FODMAPs reduces the overproduction of gases, allowing for a more balanced intestinal environment and favoring the reduction of low-grade inflammation often associated with IBS, this is a fundamental factor for the control of visceral hypersensitivity, which is present in most patients diagnosed with this condition, (PEREIRA, 2021).

Something that should also be considered is the impact of the low-FODMAP diet on relieving bloating, as many patients report a feeling of constant bloating, which can occur even without a significant increase in gas production, and this distention is often associated with changes in intestinal motility and regulation of the enteric nervous system, and, for this reason, the dietary approach has been shown to be fundamental to reduce this feeling of discomfort and improve the perception of gastrointestinal well-being, contributing to a significant increase in the quality of life of individuals diagnosed with IBS (CHAN; GONZALES; LOBO, 2021).

The impact of a low-FODMAP diet goes beyond the improvement of digestive symptoms, since the reduction of gastrointestinal discomfort is also associated with a decrease in stress and anxiety levels, as many patients report that episodes of abdominal pain and distension have a significant impact on their mental health, resulting in emotional tension and even social isolation, this is one of the reasons why this nutritional intervention has been increasingly recommended, since it provides, in addition to physiological benefits, also positive effects on the emotional well-being of patients diagnosed with IBS (ANDRADE; SIMÕES, 2021).

The literature reinforces that the low-FODMAP diet should not be seen as a definitive solution for all patients, but rather as a symptomatic management strategy, which should be applied with caution and under professional supervision, since not all individuals respond in the same way to the dietary intervention, and it is essential that the reintroduction of foods be done in a judicious and personalized manner. ensuring that each patient can identify the specific triggers of their condition without compromising their nutrition and digestive health in the long term (PEREIRA, 2021).

Therefore, the low-FODMAP diet is one of the most studied and recommended approaches for the management of IBS, as it allows an efficient control of gastrointestinal symptoms by reducing intestinal fermentation and improving the food tolerance of patients, and it is essential that this strategy is conducted with specialized monitoring, ensuring that the reintroduction of food is done safely and progressively, allowing the individual to develop a sustainable and appropriate dietary pattern for their clinical profile, thus avoiding nutritional deficits and possible metabolic complications resulting from prolonged restriction without proper monitoring (CHAN; GONZALES; LOBO, 2021).

Thus, it becomes evident that the low-FODMAP diet represents an effective and promising nutritional intervention in the treatment of IBS, providing symptom relief and promoting a significant improvement in the quality of life of patients, however, its use must be based on adequate planning and supported by scientific evidence, ensuring that individuals diagnosed with this condition can enjoy the benefits of this approach in a timely manner. safe and balanced, without compromising their digestive health or long-term nutritional well-being (SANTOS; FERREIRA, 2022).

METHODOLOGY

The present research consists of a literature review, based on the analysis of scientific studies that address the efficacy of the FODMAP-restrictive diet in the management of Irritable Bowel Syndrome (IBS) symptoms, and this approach is important to gather and synthesize the available evidence on the subject, allowing an in-depth understanding of the benefits and challenges of this nutritional intervention, in addition to enabling a critical evaluation of existing clinical recommendations and gaps identified in the literature for future investigations (PEREIRA, 2021).

For the selection of the studies analyzed, recognized databases in the area of health and nutrition were used, including PubMed, Scielo, ScienceDirect and Google Scholar. The inclusion criteria involved studies published in peer-reviewed journals that directly addressed the relationship between the FODMAP-restrictive diet and the improvement of

IBS symptoms, considering experimental research, systematic reviews and clinical trials that demonstrated the efficacy of the dietary intervention, thus ensuring an analysis based on robust and reliable evidence, allowing greater consistency in the conclusions drawn throughout the study.

On the other hand, the exclusion criteria included studies that did not have a clearly defined methodology, articles that dealt with dietary interventions without specifically mentioning the low FODMAP diet, as well as studies that presented a conflict of interest or significant methodological bias, avoiding the inclusion of materials that could compromise the reliability of the analysis, ensuring the necessary scientific rigor.

RESULTS AND DISCUSSION

The studies analyzed in this review demonstrate that the low-FODMAP diet has significant efficacy in reducing the symptoms of Irritable Bowel Syndrome (IBS), providing substantial improvements in the quality of life of patients by reducing the incidence of abdominal pain, distension, gas, and changes in bowel habit, and this nutritional approach is one of the most recommended in the medical and nutritional literature for the management of this chronic condition, as its application allows for efficient symptomatic control and promotes personalized dietary adaptation according to the individual tolerance of each patient (PEREIRA, 2021).

One of the main evidences found in the evaluated studies is the significant reduction in abdominal pain in patients who correctly adhered to the low-FODMAP diet, with improvements reported in approximately 70% of individuals diagnosed with IBS, and this improvement is attributed to the decrease in carbohydrate fermentation in the colon, reducing excessive gas production and, consequently, minimizing intestinal distension, providing symptomatic relief and improving digestive comfort, factors that, together, directly impact the perception of gastrointestinal and emotional well-being of patients (SANTOS; FERREIRA, 2022).

In addition, it was found that the adoption of the diet significantly reduces abdominal distension and flatulence, since the fermentation of FODMAPs in the colon is one of the main factors that trigger the feeling of bloating and discomfort, and the exclusion of these fermentable carbohydrates provides a rapid reduction of these symptoms, positively impacting the daily life of patients, because the reduction of abdominal swelling improves mobility and general well-being, allowing greater disposition for daily activities and a better relationship with food, without the constant fear of unexpected gastrointestinal crises (CHAN; GONZALES; LOBO, 2021).

It is noteworthy that in the studies analyzed, the influence of the low FODMAP diet on the balance of intestinal transit was identified, as many patients reported that, after adhering to the food restriction, there was a significant regularization of the bowel habit, with a decrease in episodes of diarrhea and constipation, and this regulation is a necessary factor for improving quality of life. since the unpredictability of intestinal symptoms is one of the greatest challenges faced by people diagnosed with IBS, causing physical discomfort, as well as emotional insecurity and social difficulties (ANDRADE; SIMÕES, 2021).

In addition to the physiological benefits, studies indicate that the low-FODMAP diet has a positive impact on reducing stress and anxiety in patients, as the unpredictability of IBS symptoms often generates a cycle of constant worry, which aggravates gastrointestinal symptoms due to the relationship between the gut-brain axis, and by minimizing pain episodes, distention and changes in intestinal transit, individuals experience a significant reduction in emotional tension associated with the condition, promoting not only digestive benefits but also improvements in psychological balance and overall quality of life (PEREIRA, 2021).

Despite the effectiveness of the diet, adherence to dietary restriction can be a challenge for many patients, as the exclusion of a wide variety of foods can generate difficulties in the eating routine, especially for those who do not have adequate nutritional monitoring, and many individuals report difficulties in finding nutritionally adequate substitutions for restricted foods, which can result in nutritional deficits if food reintroduction is not done correctly, evidencing the need for continuous professional guidance to ensure that the benefits of the diet are maintained without compromising the intake of essential nutrients (SANTOS; FERREIRA, 2022).

In addition, there is a need to personalize the diet for each patient, as not all individuals respond in the same way to FODMAPs restriction, and some show rapid and lasting symptomatic improvement, while others need more specific adjustments in their diet to achieve effective symptom relief, thus highlighting the importance of individualized nutritional monitoring, that allows the adaptation of the diet according to the needs and clinical responses of each patient, avoiding unnecessary restrictions and promoting a more balanced and sustainable approach (CHAN; GONZALES; LOBO, 2021).

In addition, studies indicate that the low-FODMAP diet should be applied in conjunction with other therapeutic strategies to optimize results in the management of IBS, because, despite the effectiveness of the nutritional approach, factors such as stress, lifestyle, and mental health directly influence the manifestation of symptoms, and a multidisciplinary approach is recommended, that integrates nutrition with practices such as

psychological support, stress control and adjustments in the eating routine, allowing for a more comprehensive and effective treatment, which considers all aspects involved in the disease (ANDRADE; SIMÕES, 2021).

Finally, it was found that, although the low-FODMAP diet is highly effective for the control of IBS, it should not be seen as a definitive solution for all patients, as its effectiveness depends on individual factors, such as the body's response to dietary restriction, the ability to adhere to the meal plan, and the need for adjustments over time. it is essential that patients receive a personalized and evidence-based approach, ensuring that the intervention is applied safely and effectively, without compromising nutritional status or generating negative impacts on the relationship with food (PEREIRA, 2021).

Thus, the results analyzed reinforce that the low-FODMAP diet represents one of the best nutritional strategies for the control of IBS, providing symptomatic relief and significantly improving the quality of life of patients, as long as its application is done with adequate professional monitoring, ensuring that the exclusion and reintroduction of foods occur in a balanced manner. allowing individuals to develop a sustainable dietary pattern that is compatible with their clinical and nutritional needs, maximizing the benefits of the approach and reducing possible side effects (SANTOS; FERREIRA, 2022).

CONCLUSION

The present review analyzed the importance of a low-FODMAP diet in the treatment of Irritable Bowel Syndrome (IBS), showing that this nutritional approach represents one of the most effective strategies for relieving gastrointestinal symptoms of this condition, providing a significant improvement in the quality of life of patients, because, by reducing the intake of fermentable carbohydrates, there is a significant decrease in gas production, abdominal distension, and changes in intestinal transit, factors that are often the main responsible for the discomfort reported by individuals diagnosed with IBS.

The findings of this review demonstrate that the low-FODMAP diet can provide symptomatic relief for about 70% of patients, and this success rate is an indication that diet plays a central role in the management of IBS, since, by controlling food triggers, it is possible to avoid episodes of pain, distension, and flatulence, improving the predictability of bowel function and reducing the need for pharmacological interventions, This makes this approach even more relevant from a clinical and nutritional point of view, as it offers a non-invasive and easy-to-apply alternative for controlling the disease.

However, despite the proven benefits, adherence to the restrictive diet can be a challenge for many patients, as the need to avoid a wide range of foods in their initial phase

can generate difficulties in the eating routine, in addition to requiring adequate nutritional substitutions to avoid deficits, and the absence of professional monitoring can compromise the success of the intervention, making it essential to have the guidance of a nutritionist so that the process is conducted safely, ensuring that the exclusion of FODMAPs occurs in a controlled manner and that the reintroduction of foods is done in a gradual and personalized way, respecting the particularities of each patient.

In addition, the literature analyzed reinforces that the low-FODMAP diet should not be applied indiscriminately, as not all patients with IBS are sensitive to the same fermentable carbohydrates, and the personalization of the intervention maximizes the benefits and avoids unnecessary restrictions, which is why the food reintroduction phase must be carried out with attention and planning, allowing the individual to identify which food groups trigger symptoms and which can be consumed without harming intestinal function, ensuring that the diet remains varied and balanced in the long term.

The psychological impact of the low-FODMAP diet on patients' lives was also observed in this review, as the reduction of gastrointestinal symptoms not only improves physical well-being, but also reduces the stress and anxiety often associated with the unpredictability of IBS symptoms, providing greater control over the eating and social routine, which reflects in a better overall quality of life, Because individuals who previously suffered from unexpected episodes of pain and distension now have more confidence to participate in social events and professional activities, without the fear of sudden gastrointestinal crises.

Despite the effectiveness of the diet, the need for a multidisciplinary approach to the management of IBS is widely recognized, as factors such as stress, lifestyle habits, and emotional health directly influence the manifestation of symptoms, and the combination of diet with complementary practices, such as psychological support and stress control techniques, can further optimize the results obtained with the restriction of FODMAPs, ensuring a more comprehensive and sustainable treatment, which considers not only the physiological aspects of the disease, but also the emotional and behavioral factors that affect the well-being of patients.

In addition, the need for further studies on the long-term application of the low-FODMAP diet was one of the gaps identified in the literature, as although the benefits of this approach are well documented, there are still uncertainties about the nutritional impacts that may arise from prolonged restriction of these fermentable carbohydrates, maintaining a balanced diet is important to avoid possible nutritional deficiencies, This reinforces the

importance of the gradual reintroduction of food and the individualized adaptation of the food plan to ensure the long-term sustainability of this intervention.

Therefore, the low FODMAP diet stands out as an essential tool for the management of IBS, providing effective symptom control and a significant improvement in the quality of life of patients, as long as its application is done in a planned way, with professional monitoring and respecting the individuality of each patient, as the personalization of the approach is one of the main factors that determine the success of this intervention, ensuring that the diet remains adequate, varied and nutritionally balanced over time.

Based on the findings of this review, it is recommended that health and nutrition professionals encourage the application of the low-FODMAP diet as a therapeutic strategy for patients with IBS, but also ensure that this intervention is conducted responsibly and based on scientific evidence, ensuring that patients have access to a safe and effective eating plan, that allows symptom control without compromising the intake of essential nutrients, allowing this approach to be used sustainably and without harm to intestinal and metabolic health.

Finally, continued research on the impacts of low-FODMAP diets on the gut microbiota and their relationship with long-term digestive health is essential to deepen the understanding of the mechanisms involved in the clinical response of patients to this dietary intervention, allowing future approaches to be even more personalized and effective. ensuring that individuals diagnosed with IBS can enjoy the benefits of this nutritional strategy in a safe and balanced way, improving their quality of life and reducing the negative impacts of this chronic condition on their daily routine.

Thus, this review contributes to reinforce the relevance of the low-FODMAP diet as a scientifically validated method for the treatment of IBS, highlighting the importance of adequate nutritional monitoring and the need for personalization of the intervention to ensure the best possible results, allowing patients to have more efficient control over their gastrointestinal symptoms and to develop a sustainable dietary pattern compatible with their health promoting greater autonomy and well-being in the management of this chronic condition.

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