

Irritable Bowel Syndrome. Is it a Psychogenic or Organic Disease?

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ABSTRACT

Irritable bowel syndrome (IBS) is a very common medical condition amongst the Mexican adult population, this chronic syndrome is characterized by abdominal pain and changes in bowel habits. The ability to identify a definitive etiology of this disease would not only help us to improve the treatment, it would also enable the possibility to prevent it. This is why the main objective of this article is just that, finding the cause and linking it with dietetic management and nutritional intervention.

There is a bidirectional communication between the central nervous system and the gastro-intestinal tract (brain-intestine axis), this axis is made up from afferent fibers to integrate impulses in the central nervous system and efferent fibers to control smooth muscle, as well as glands and neuroendocrine cells. This communication permits the brain to have direct influence over the intestine, and therefore change bowel habits based on alterations in the brain chemistry such as stress or other strong emotions. Describing a single cause for IBS would be incorrect since there are multiple causes that might be happening simultaneously. Some of them are: infection, immune response, food intolerance, genetics and the psychological factors that were previously mentioned. It is not possible to talk about IBS without considering diet. Most patients with IBS report an intolerance to certain food from the Mexican diet, such as lactose, legumes, oligosaccharides, monosaccharides and polyols this group is known as FODMAP, and they share three main characteristics that are associated with developing symptoms: they have osmotic activity, are poorly absorbed and also are fermented by the microbiome. In conclusion there are multiple etiologies for irritable bowel syndrome, that may or may not be simultaneously happening in a single person.

KEYWORDS: Irritable bowel syndrome, psychological, organic, cause, nutrition, FODMAP.

ARTICLE DETAILS

Published On:
12 October 2023

Available on:
<https://ijmscr.org/>

Irritable bowel syndrome (IBS) is a medical condition common amongst the Mexican population characterized by chronic and recurrent abdominal pain, changes in bowel habits, and occur in the absence of an underlying organic condition. [3] This set of symptoms has a prevalence between 10-20% in the Mexican population which is similar to the prevalence worldwide. With this high prevalence one question must be answered, What is the cause? The answer is relevant not just for the treatment but also for the prevention of this illness. There have been previous attempts of determining this cause, however, since there are no biomarkers linked to IBS, finding the causes becomes a lot more complicated. [7]

Different theories and factors have been proposed to explain the development of IBS, some of these theories are the following: Dysregulation of intestinal motility, visceral hypersensitivity, bloating due to certain nutrients, post-infection, microbiome, food intolerance, genetics, work and

social stress. [3] Food choices and diet that a person has play a big role in the development of this set of symptoms, therefore food choices and nutrition are two key topics when talking about irritable bowel syndrome. [9]

The symptoms encompassed within this syndrome are as follows: abdominal distension, flatulence, and abdominal pain, which improves with defecation. It is also important to consider a change in bowel habits, specifically a change in the frequency of bowel movements and a change in the form of stools. [1] These symptoms are well represented in the Rome III criteria, and like all syndromic diagnosis, it is based on the subjective data provided by the patient. [2]

The objective of this article is to determine the etiology of the condition known as Irritable Bowel Syndrome (IBS) in the adult Mexican population, taking into account various factors studied by international and national associations. The research was based on data from Google Scholar and PubMed, searching for relevant information on

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"Irritable Bowel Syndrome in Mexico, psychology, FODMAP, nutrition, and Irritable Bowel Syndrome." Finally, the study will investigate the psychological and physical exposure factors that influence this condition in Mexican adult patients. By doing so, it aims to correlate these factors with the dietary and nutritional management provided to patients with this diagnosis.

The psychology of Irritable Bowel Syndrome (IBS) in Mexican adult patients.

There is bidirectional communication between the central nervous system and the gastrointestinal tract (the gut-brain axis). This axis is composed of afferent fibers to integrate impulses and efferent fibers to control smooth muscles, glands, and neuroendocrine cells. This communication allows the brain to have a more direct influence on the intestine, depending on a person's emotional state. The gut-brain axis is divided into three levels: the first being the enteric nervous system, which controls muscle function, secretions, and blood flow. In the second level, there is the autonomic nervous system, which, through the sympathetic and parasympathetic systems, controls enteric function. Lastly, there is the central nervous system, which has both vegetative and emotional influence. For example, it has been observed that a person in a state of emotional stress can release increased amounts of adrenaline and noradrenaline, which in turn activates the sympathetic system and inhibits the action of the enteric nervous system. [6] The gut-brain axis is the primary element behind the significant impact that a person's emotions have on the gastro-intestinal tract, and this is why a patient with a history of stress is more susceptible to this diagnosis. A prevalence study of Irritable Bowel Syndrome (IBS) was conducted through surveys in Mexico City, Tlaxcala, and Veracruz. In Mexico City, a prevalence of 35.5% was found, while in Tlaxcala and Veracruz, it was 16% and 16.7%, respectively. Taking into account that Mexico City is the metropolis with the highest stress levels in the entire country of Mexico, it was associated with playing a significant role in the development of this syndrome. [2]

Eighteen research protocols were analyzed, involving a total of 1,127 patients. Among them, 612 received treatment with selective serotonin reuptake inhibitors, while the other 515 received a placebo. Among the patients receiving antidepressant treatment, 66% reported significant improvement, whereas 33% of the patients receiving the placebo reported improvement. Based on these results, it was concluded that when patients receive treatment that influences their stress levels, there is an improvement in the symptoms of the Irritable Bowel Syndrome. [4]

Another research protocol was conducted where patients were divided into two groups. The experimental group received cognitive-behavioral therapy with a total of 10 sessions, each lasting 60 minutes, while the control group did not receive any form of therapy. The results obtained suggested that cognitive-behavioral therapy is effective in

reducing the intestinal symptoms of Irritable Bowel Syndrome (IBS). The symptoms were reduced by 58% in the experimental group, whereas in the control group, there was a reduction of only 20% [5]

The organic cause of Irritable Bowel Syndrome (IBS) in adult Mexican patients.

Defining a single cause for Irritable Bowel Syndrome (IBS) would be incorrect, as it has multiple simultaneous causes, including infection and immune system activation, food intolerance, genetic and nutritional factors, in addition to the psychological factors previously mentioned.

Starting with the description of infections and consequent immune system activation, it has been shown that patients with this illness tend to have higher levels of mast cells and lymphocytes, and therefore, inflammatory cytokines. With this information, we can conclude that when a patient has an infection, they are at risk of experiencing IBS symptoms. This occurs in up to 36% of patients recovering from a gastrointestinal infection. [11]

One cannot discuss the causative factors of Irritable Bowel Syndrome (IBS) without addressing the patient's diet. Patients with IBS often report not tolerating certain foods from the Mexican diet properly. For example, they may have issues with lactose, legumes, oligosaccharides, disaccharides, monosaccharides, and polyols, which are collectively known as FODMAPs. These foods have three main characteristics associated with the development of symptoms: they are poorly absorbed, osmotically active, and fermentable by the intestinal microbiome, thereby producing gas and flatulence. [3]

Nutrition plays an important role in two aspects: First, it relates to how a person's food choices, influenced by factors such as the life cycle, sociocultural factors, and intrapersonal aspects, can impact the onset of symptoms. The second aspect involves treatment, where individualized nutritional interventions are performed, primarily focusing on the FODMAP diet, to identify which foods cause discomfort to the patient. [11]

It is said that genetics is the information that dictates the behavior of life, and in all situations, it plays an important role in the development of Irritable Bowel Syndrome (IBS). Various studies have been conducted on genes related to inflammatory cytokines (TNF α , IL-1, IL-6) in patients with IBS, and it was found that certain polymorphisms, specifically the T and G alleles, were associated with a high production of these cytokines. [8]

CONCLUSIONS

In conclusion, the etiology of Irritable Bowel Syndrome (IBS) is multifactorial, meaning that we cannot attribute a single cause as the sole culprit, as the development of this disease is based on multiple coexisting causes, some of which even act simultaneously. What can be defined is that for the prevention and treatment of this condition, we can target two important components in its development: the psychogenic

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component, as we have seen, is of vital importance. This can be achieved by reducing the stress levels in the patient's life, in addition to implementing interventions with cognitive-behavioral therapy and selective serotonin reuptake inhibitors, which have been shown to have broad benefits for individuals of any kind.

It was also determined that the nutritional status and daily dietary choices of a patient are very significant. This is because the consumption of high FODMAP foods can cause poor absorption, creating an osmotic gradient and being fermented by the microbiota. This, in turn, can lead to abdominal distension due to gas accumulation, which can cause the symptoms of IBS. That's why dietary management with the FODMAP diet and nutritional intervention should be included in the treatment of anyone with IBS

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