

ARTICULO DE INVESTIGACIÓN

PREVALENCIA DEL SÍNDROME DE INTESTINO IRRITABLE EN ESTUDIANTES DE MEDICINA DEL ÁREA CLÍNICA DE LA UNIVERSIDAD DE PAMPLONA COLOMBIA.

PREVALENCE OF IRRITABLE BOWEL SYNDROME IN MEDICAL STUDENTS FROM THE CLINICAL AREA OF THE UNIVERSITY OF PAMPLONA COLOMBIA

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Recibido: 15 de febrero de 2024.

Aprobado: 15 de marzo de

2024

RESUMEN

Introducción: El Síndrome de Intestino Irritable es una enfermedad gastrointestinal crónica que se caracteriza por dolor y sensación de distensión abdominal acompañada de alteraciones como estreñimiento, diarrea o ambas sin una causa orgánica que lo justifique, afecta la calidad de vida y la actividad laboral del paciente, está relacionado con situaciones de estrés crónico, presencia de alteraciones emocionales, depresión, neurosis, ansiedad o dificultad para adaptarse a nuevas circunstancias o situaciones del diario vivir como rutinas, rol académico o laboral. Por lo anterior se plantea como **objetivo** del estudio, establecer la prevalencia del

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How to cite this article: Dávila-Timaná Andrea, Ibarra-Reina Neyla , Pérez-González María , Velasco-Estévez Angie , Barbosa-Valderrama Sughey , Figueroa María , Pabón Jorge, Prevalencia del síndrome de intestino irritable en estudiantes de medicina del área clínica de la Universidad de Pamplona, Colombia, Revista Ciencias Básicas En Salud, 2(2): 48-55, junio 2024, ISSN 2981-5800.

Síndrome de Intestino Irritable en estudiantes de Medicina del área clínica de la Universidad de Pamplona, la **metodología** se plantea a través de un enfoque cuantitativo, de tipo descriptivo, prospectivo, la muestra incluida fueron 165 estudiantes de medicina matriculados en los semestres entre sexto y decimo semestre, correspondientes al área clínica. Se obtuvieron como **resultados**, que existe una fuerte asociación entre ser mujer y tener Síndrome de Intestino Irritable, así como tener síntomas de ansiedad y depresión asociados a la carga académica.

PALABRAS CLAVES.

Ansiedad, Estrés, Estudiantes, Medicina, Síndrome Intestino Irritable.

SUMMARY

Irritable Bowel Syndrome is a chronic gastrointestinal disease that is characterized by pain and a sensation of abdominal distension accompanied by alterations such as constipation, diarrhea or both without an organic cause that justifies it. It affects the patient's quality of life and work activity. Related to situations of chronic stress, presence of emotional disturbances, depression, neurosis, anxiety, or difficulty adapting to new circumstances or daily living situations such as routines, academic or work role. Therefore, the **objective** of the study is to establish the prevalence of irritable bowel syndrome in medical students in the clinical area of the University of Pamplona. The **methodology** is proposed through a quantitative approach, descriptive, prospective, the sample Included were 165 medical students enrolled in the semesters between the sixth and tenth semester, corresponding to the clinical area. The **results** were obtained that there is a strong association between being a woman and having irritable bowel syndrome, as well as having symptoms of anxiety and depression associated with academic workload.

KEYWORDS

Anxiety, Stress, Students, Medicine, Irritable Bowel Syndrome.

INTRODUCTION

Irritable Bowel Syndrome (IBS) is a chronic gastrointestinal disease characterized by pain and a feeling of abdominal distension accompanied by

disorders such as constipation, diarrhea or both without an organic cause that justifies it, affecting the quality of life and work activity of the patient, Mearin, F et. Al (2007).

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It has been described as one of the most frequently recognized disorders of the brain-intestinal interaction of the digestive tract, Hernández et. Al (2023), states that its etiopathogenesis and pathophysiological mechanism are unknown, but it may be related to various mechanisms that include intestinal motility disorders, visceral hypersensitivity, genetic disorders, low-grade inflammation, disorders in the absorption of bile salts, altered intestinal permeability and psychological comorbidity. Currently, functional gastrointestinal disorders are one of the most frequent reasons for consultation by gastroenterology, finding that factors such as: anxiety, stress and depression, are associated with the suffering of this pathology.

Irritable bowel syndrome (IBS) is an entity that affects 11% of the world's population. It has a high prevalence but there are important differences in the published data; Silva (2011), these differences are mainly due to the different samples evaluated and several diagnostic criteria used; taking into account the Rome II criteria, the prevalence of IBS in the United States is 5%, in Canada 12%, in Australia 7%, in Palestine 5% Spain 3.3% and Colombia between 9 and 18%. In our country epidemiological studies are scarce, among which is a study of the Gastroenterology Service of the Samaritana University Hospital in Bogotá, observing a prevalence of 14%

of 7,000 gastroenterology consultations performed per year (5).

Medical students are characterized by a constant and increasing academic demand that, according to Gómez et al. (2020), requires adaptation efforts from the student. Added to this is the need for optimal preparation, which is essential for their professional future. Additionally, it could be established that they are in a period of the life cycle with its own characteristics: adolescence and young adulthood.

It is also important to mention that the stress that a medical student faces during the training period is necessarily high, with the risk of affecting physical and mental health, Rodríguez Garza (2014), which is why there is a need to establish the prevalence of irritable bowel syndrome in medical students, because they represent a population that is constantly exposed to periods of academic stress and that can affect functioning, leading to symptoms of Irritable Bowel Syndrome (IBS).

MATERIALS AND METHODS

For the development of the research, it was necessary to establish the methodological approach based on a quantitative, descriptive, prospective study, in which the association of Irritable Bowel Syndrome was established in 165 medical students from clinical areas, corresponding to the sixth to tenth

semesters, at the University of Pamplona, in Colombia. Data were collected using an online instrument, which contained the variables of age, sex, semester they attended, the number of meals they ate per day, number of times they consumed street food per week, number of times they consumed fruits and vegetables per day, motility disorders, abdominal pain, mental illnesses and stress associated with specific events. To establish the association between the variables, a relative risk (RR) analysis was performed, determining the strength of association and the risk of each exposure variable, in accordance with the study objectives.

THEORETICAL FRAMEWORK: IRRITABLE BOWEL SYNDROME AND ITS RELATIONSHIP TO STRESS FACTORS.

This syndrome is a chronic and functional disorder characterized by the presence of abdominal pain, associated with alterations in bowel habits, whether constipation, diarrhea or alternation in these alterations, Domingo (2022), other digestive symptoms and signs such as flatulence and abdominal distension are also described. Its etiopathogenesis and pathophysiological mechanism are unknown, Enck P. et. Al. (2016), but it may be related to various mechanisms that include intestinal motility disorders, visceral hypersensitivity, genetic

disorders, low-grade inflammation, alterations in the brain-gut axis, disorders in the absorption of bile salts, altered intestinal permeability and psychological comorbidity.

It presents as etiology, that one of the main factors associated with IBS is stress, which is defined by the WHO as the set of physiological reactions that prepares the body for action, that is, a biological alert system necessary for survival, Lovo J. (2020), Any change or different circumstance that is presented to us, such as changing residence, job, speaking in public, can generate stress, which triggers a series of stimuli and release of hormones that makes it easier for the person to achieve their goal, subsequently returning to their basal state. The problem arises when certain circumstances unconsciously perceived as "threats" (work overload, economic or social pressure, a competitive environment, etc.) are maintained over time and generate a state of exhaustion, bringing with it functional and organic alterations.

The effect of stress on sensitivity, motility, secretion, permeability and gastrointestinal microbial is due to the alteration of the brain-gut axis, Ganformina (2017). Thus, functional changes in the enteric nervous system (ENS), autonomic nervous system (ANS), central nervous system (CNS)

and/or the hypothalamic-pituitary-adrenal (HPA) axis lead to the development of gastrointestinal pathologies, among which, the most notable, is irritable bowel syndrome.

Exposure to stressful stimuli over a considerable period of time causes overactivation of the paraventricular nucleus of the hypothalamus, resulting in higher than baseline blood cortisol levels. High levels of cortisol have been shown to cause significant alterations in the hippocampus, amygdala, and prefrontal cortex. In all three cases, there is a failure to inhibit the hypothalamic-pituitary-adrenal (HPA) axis, causing the amount of bioavailable cortisol to exceed baseline levels. The inhibition of the negative feedback loop therefore favors the development of certain pathologies such as IBS (Cranston, 2014). Several studies have shown that patients with diarrhea-predominant IBS (IBS-D) exhibited a hyperresponse to cortisol that was not observed in control patients and in patients with constipation-predominant IBS (IBS-C) (Elsenbruch and Orr, 2021).

The autonomic nervous system (ANS) regulates visceral sensitivity and coordinates gastrointestinal motility and secretion. Furthermore, some studies suggest that the ANS is also involved in the immunological and

inflammatory regulation of the gastrointestinal mucosa (Karantanos et al., 2010). Most of the symptoms presented by patients with irritable bowel syndrome (IBS) are directly related to specific ANS abnormalities. The main characteristic of these patients is increased sympathetic nervous system activity and decreased parasympathetic activity. Sympathetic activation in response to stress decreases movements and secretions in both the stomach and intestines (Adeyemi et al., 1999; Karantanos et al., 2010).

Similarly, the decrease parasympathetic or vagal activity reduces mucus secretion in the stomach. However, it has been observed that in extremely stressful situations, a vagal discharge occurs due to overactivation of the vagus nerve, which leads to hemorrhages and peptic ulcers (Alvarado et al., 2015).

RESULTS

The results of the study are initially established in relation to the fact that the age with the highest rate of the sample in the research was in the range between 21-23 years, with 56%, according to Barrera et al. (2018), who investigated the factors related to IBS in a group of medical students, determined that the population in that age range corresponds to 24.8%, with

the highest percentage being attributed to the general sample at the age of 19. Likewise, in relation to gender, the same research reports that the population included were more women than men, being similar to the present research where the same phenomenon is evident.

Regarding the results related to fruit intake, number of meals eaten per day, number of days exercising, it could be said that they are related to behaviors of limited health care, which is related to the research of Barrera (2018), where it is concluded that healthy lifestyle habits are not present in the majority of the population included in the study. Although there is apparently no relevant scientific evidence about nutritional recommendations and healthy lifestyle habits in the treatment of IBS according to Ibarra & Verdugo (2021), the results shown in the present research and in the aforementioned one indicate that there is no balanced nutritional status or constant physical activity routines, which could probably be related to the academic load, which according to the results of the research show a report of symptoms of anxiety and stress.

Regarding the association of Irritable Bowel Syndrome (IBS) with sex, research shows that there is a strong association with the female gender, which, according to the research

included as background, can be determined to be related to the result obtained, Gómez A. et al. (2019) in Bucaramanga, reported in the research carried out that the female sex was also associated with IBS, regardless of anxiety symptoms. Likewise, Mariños S. et al. (2019) established that women had a strong association with IBS. Ibarra (2021), on the other hand, establishes that the prevalence is higher in women than in men in a 2:1 ratio. According to the contrast data mentioned in, it can be established that the present research yields results similar to those in the scientific literature, confirming the hypothesis in the population studied, such as medical students at the University of Pamplona, in which the highest prevalence of IBS is in women.

The results obtained on the association of anxiety and depression symptoms with the presence of Irritable Bowel Syndrome can be related to the results of the research by Bautista et al. (2011) in Mexico, which concluded that the symptoms of anxiety, depression and stress are related to IBS and the female sex, with no effect on academic performance in medical students. In the present study, a moderate association was established. In the same study by Gómez, the association between Irritable Bowel Syndrome with anxiety and age is also related.

CONCLUSIONS.

Of the 165 people included in the study population, the majority were women; the average age was between 21 and 23 years old, and healthy lifestyle habits were not established or balanced with the academic load.

The majority of the study population had no prior diagnosis of IBS, meaning that the triggering factors are associated with their academic role. According to the results, the majority of the students who participated in the study were in their eighth semester at the time the study data were collected.

The association between being a woman and Irritable Bowel Syndrome was confirmed, as established by theory in the general population and as reported by various international, national, and regional studies, which show that symptoms are more prevalent in women among medical students.

It can be concluded from the results of the study that the hypothesis between the appearance of anxiety and depression symptoms and the diagnosis of IBS in medical students at the University of Pamplona is confirmed.

The relationship between IBS with stressors related to the academic load of medical students, the research allowed to identify that there is a high

risk with a strong association of said stressors, such as partial exams, living far from family, economic situation and stress with IBS, however, in the background of the research does not report within the hypotheses of the study the analysis of said predisposing factors in relation to the academic role of medical students, which represents a main contribution in this research, because the studies consulted associate the variables of anxiety and depression with Irritable Bowel Syndrome, but do not report clarity in revealing what relationship exists between the academic role and these two variables.

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How to cite this article: Dávila-Timaná Andrea, Ibarra-Reina Neyla, Pérez-González María, Velasco-Estévez Angie, Barbosa-Valderrama Sugely, Figueroa María, Pabón Jorge, Prevalencia del síndrome de intestino irritable en estudiantes de medicina del área clínica de la Universidad de Pamplona, Colombia, Revista Ciencias Básicas En Salud, 2(2): 48-55, junio 2024, ISSN 2981-5800.

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