

# Current Cause and Management of Irritable Bowel Syndrome in Basrah, Iraq

Zainab Najim Abdul-Nabi<sup>1</sup>, Ausama Ayob Jaccob<sup>1</sup>, Ali Ghalib M. Redha<sup>2</sup>

<sup>1</sup>Department of Pharmacology, College of Pharmacy, University of Basrah, Basra, Iraq, <sup>2</sup>Department of Surgery, Al-Fayhaa Teaching Hospital, Basra, Iraq

## Abstract

**Background:** Irritable bowel syndrome (IBS) is a common functional disorder of the gastrointestinal tract in which the patient experiences abdominal pain and altered bowel habits. **Objective:** The present study was designed to investigate the common causes, associated factors, and treatment of IBS in Basra City. **Materials and Methods:** A cross-sectional study was conducted in Basra city, involving 253 patients with IBS who completed a web-based pre-tested, structured questionnaire, during the period from January to July 2021. Questions about demographic characteristics, personal history, and types of bowel habits were included. **Results:** The common symptoms reported were flatulence, gastric upset, constipation, and abdominal pain, with prevalences 209, 133, 116, and 111, respectively. Most patients were not smokers, consuming caffeinated drinks, cola, chocolates, and a mixed diet. In addition, their sleeping hours were insufficient, and they had no sports activities. Approximately, 108 patients had a family history of IBS. The majority of patients in this study used drugs such as mebeverine, antacids, and charcoal to alleviate their symptoms. **Conclusion:** The most notable symptoms reported by patients in this study were flatulence, gastric upset, constipation, and abdominal pain. The risk factors for IBS in this study included male gender, family history of IBS, consumption of caffeinated drinks, and drugs like nonsteroidal anti-inflammatory drugs. Mebeverine, antacids, and charcoal were the most commonly used drugs for treating IBS in Basra city.

**Keywords:** Basrah, irritable bowel syndrome, management

## INTRODUCTION

Numerous conditions affect the digestive system,<sup>[1]</sup> and abdominal pain and changes in bowel movements are two symptoms of the functional gastrointestinal illness known as irritable bowel syndrome (IBS).<sup>[2]</sup>

IBS is diagnosed through clinical observation and the exclusion of other disorders.<sup>[3]</sup>

Age, gender, and sociodemographic factors all influence the incidence. In developed countries, women are two to four times more likely than men to have IBS. IBS is more prevalent during youth and becomes less prevalent as people age.<sup>[4,5]</sup>

Smoking, drinking alcohol,<sup>[6,7]</sup> and engaging in physical exercise<sup>[8]</sup> are lifestyle choices that have also been related to IBS. Additionally, stress and anxiety<sup>[4,9]</sup> as well as genetic and psychological variables have been linked to IBS, with 33% of patients reporting a positive family history.<sup>[10]</sup>

There are few studies about the triggering factors of IBS in Arab countries, including Iraq, so the present study aimed to assess the risk factors and treatment of IBS in Basrah city, southern Iraq.

## MATERIALS AND METHODS

### Study design

The study was conducted among 253 patients with IBS in Basra, southern Iraq during the period from January to July 2021, through the web-based structured questionnaire.

**Address for correspondence:** Dr. Zainab Najim Abdul-Nabi,  
Department of Pharmacology, College of Pharmacy,  
University of Basrah, Basra 44001, Iraq.  
E-mail: zainab.abdulnabi@uobasrah.edu.iq

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**Data collection, inclusion, and exclusion criteria**

All respondents were given access to this questionnaire and were asked to complete it. Online distribution to Medical Corps groups and the regions took place.

The database exclusively depended on the replies from the survey. However, respondents in this study were 253 patients. The consented respondents were given a questionnaire to complete individually, and it was written in Arabic.

Questions about demographic characteristics (age, gender, occupation, education, marital status, number of children, and monthly income), personal history (alcohol ingestion, smoking, major disease history, family history of IBS, food allergy, herbs and drugs used to treat IBS, number of sleeping hours, analgesic intake, regular drug intake, type of diet, caffeinated drinks, and chocolate intake), and type of bowel habit (constipation-predominant IBS [IBS-C], diarrhea-predominant IBS [IBS-D], and mixed stool pattern IBS [IBS-M]) were also included.

Only those participants in this study who were readily available for data collection and willing to share information were included in the study. People who did not feel secure enough to provide information were not included in the study.

People with co-morbid GI disorders such as celiac disease or inflammatory bowel diseases were not excluded, as these conditions are known risk factors for secondary IBS. Even celiac patients who adhere to a gluten-free diet are still more likely than controls to experience symptoms of IBS.<sup>[11,12]</sup>

**Statistical analysis**

The collected data were entered into an Excel spreadsheet for Windows 2010 and then subjected to statistical analysis using the software Statistical Package for the social Sciences (IBM Copr., Armonk, NY, USA) version and the Statistical Analysis System (SAS). The mean was used to present the data. Prism 7 software package (GraphPad, La Jolla, CA, USA) was utilized to conduct statistical analysis.

**Ethical approval**

Consent was primarily obtained verbally or via email. The study's participants were free to withdraw at any time without needing to provide a reason for their decision. An ethical approval was obtained from the ethics committee at the College of Pharmacy (approval number: Ec18), and it follows Helsinki Declaration for involving human subjects.

**RESULTS**

A total of 253 patients with IBS were involved in the present work and participated in filling out a questionnaire. All individuals who agreed to fill questionnaire were already diagnosed with IBS at

78.48 ± 17.08 kg and 38.57 ± 10.2 years. In the overall sample, 57.5% of patients are males, and 42.5% are females, as seen in Figure 1.

Flatulence, gastric upset, constipation, and abdominal pain appear to be the major symptoms that patients complain about with high frequency, as shown in Figure 2. Further gastrointestinal symptoms like mixed bowel habits, vomiting, abdominal pain relief in defecation, and general discomfort are hallmarks of IBS characteristic findings.

Different variable and characteristic findings are documented in the questionnaire to correlate and rationalize them to the development of IBS. Table 1 clearly summarizes and explains the collected information in this respect. The majority of participants are nonsmokers, but most of them consume caffeinated drinks and high intake of cocoa and chocolates. Regarding sleeping hours, most patients have irregular or inadequate sleeping hours. On the other hand, about 69 patients have sleeping hours in the recommended range. In the present study, 108 patients have a family history of IBS. Additionally, most patients with IBS have

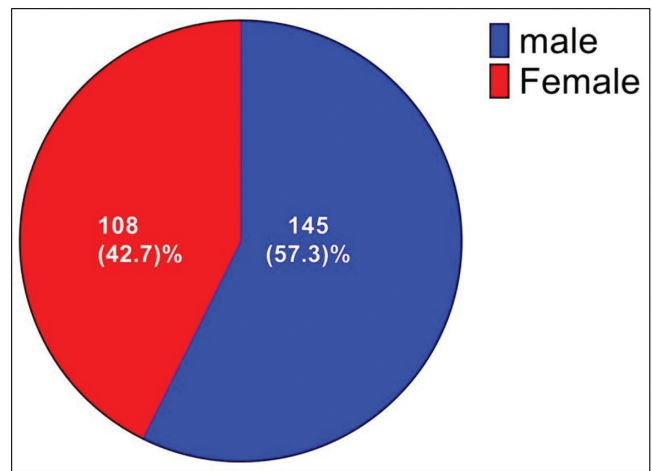


Figure 1: Gender distribution among patients with IBS (N = 253)

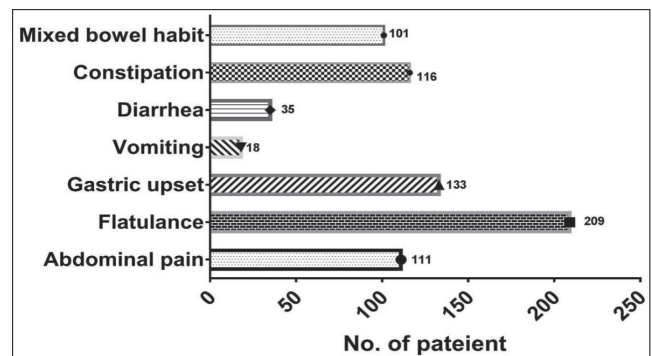


Figure 2: General symptoms that patients complain of with IBS (N = 253)

no sports activities and prefer a mixed diet, and 82% are married, as seen in Figure 3.

**Table 1: Demographic data of patients with irritable bowel syndrome answers variable questions with respect to the questionnaire (N = 253)**

Variables	Number of patients	
	Yes	No
Smoking	34	219
Family history IBS	108	145
Food allergy	22	131
Alcohol drinking	6	247
Caffeinated drinks	117	136
Cocoa and chocolate intake	159	94
Sleep hours in recommended range	69	184

Figure 4 shows the concordance of some disorders and diseases or many medications with the development

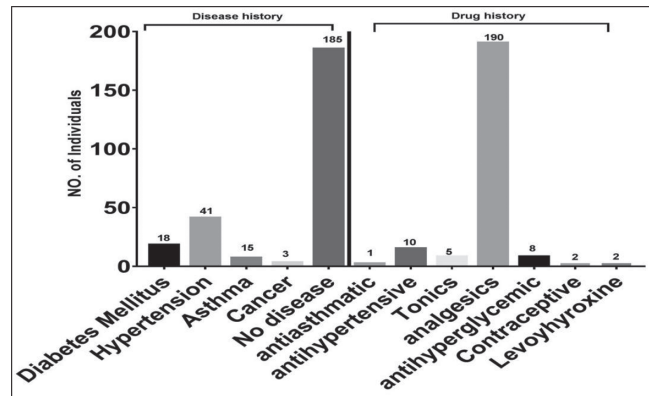


Figure 4: Diseases and drug history in patients with IBS (N = 253)

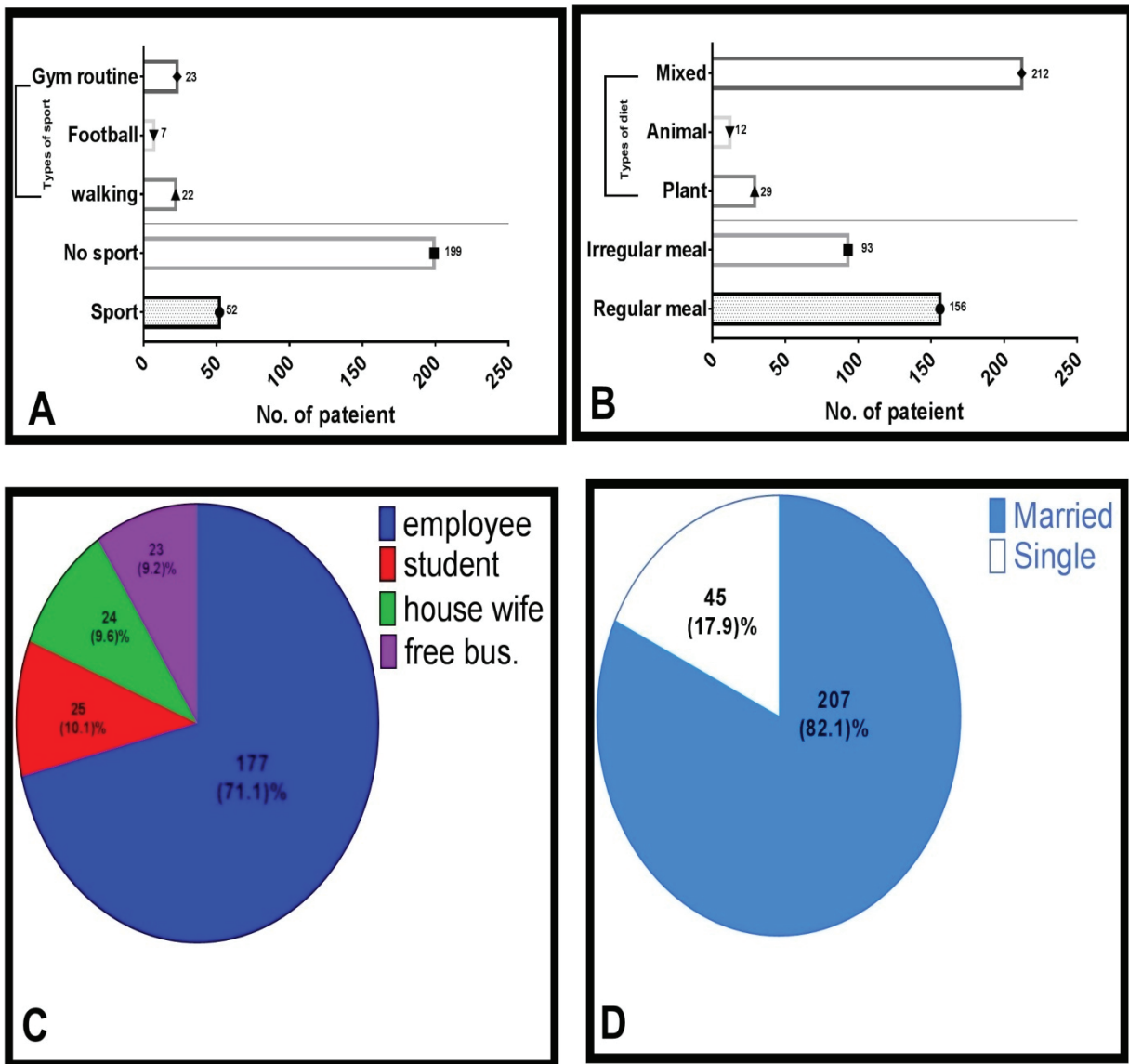
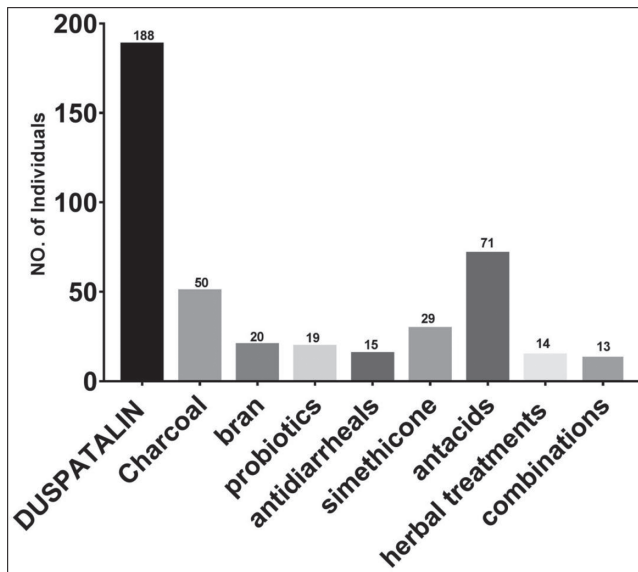


Figure 3: Demographic characteristics of patients with IBS. (A) Represents the sport variable. (B) Represents the effect of diet. (C) Represents the effect of the job. (D) Represents marital status



**Figure 5:** Current medication used to treat patients with IBS participating in the study

of IBS. There are 41 patients with hypertension and 18 patients with diabetes mellitus. On the other hand, 190 patients with IBS consumed different types of analgesics that may contribute to such syndrome.

Most patients in the present study are taking medications to relieve their symptoms, as shown in Figure 5. Mebeverine, antacids, charcoal, simethicone, bran, and probiotics are prescribed to patients with IBS in high frequency. Additionally, some patients used combination therapy trying get better treatment.

## DISCUSSION

The higher percentage of patients suffering from IBS are male. There are few articles about the sex-related prevalence of IBS, but actually, men appear to be more prevalent in different countries. In a study of Korean people, women with IBS were significantly lower than men. The possible explanation women are more likely to avoid certain types of foods that may aggravate IBS or avoid certain jobs and domestic activities that are considered more socializing than men.<sup>[13,14]</sup>

The most prominent symptoms that patients complain about in the present work are flatulence, gastric upset, constipation, and abdominal pain. IBS is a common disease of GIT characterized by symptoms-based conditions of abdominal pain, flatulence, and changes in bowel habits. These appear to be classical symptoms that confirm the diagnosis in the absence of other diseases that could lead to misdiagnosis, in addition to nausea, vomiting, and mixed bowel.<sup>[15]</sup>

Patients participating in this study are less likely for doing sports and general health-related activities. Exercise was widely prescribed to patients with IBS to alleviate their

symptoms; our findings support this idea. Since physical exercise elucidates beneficial effects by facilitating intestinal gas transit, athletes are less prone to develop IBS. Indeed, exercise was considered to be more effective than drugs in the treatment of IBS.<sup>[16]</sup>

A substantial number of individuals with subsequent irritable attacks are associated with the ingestion of certain types of foods. Surprisingly, in the present study, no differences were observed in the prevalence of IBS in both animal and plant foods. Persons with mixed food intake are associated with a high percentage of IBS. The most important clinical fact, healthy eating, and lifestyle are required as the first-line approach for the nonpharmacological management of IBS. Therefore, recently, research has focused on the role of diet in IBS, and dietary management is considered an important step in IBS treatment.<sup>[17]</sup>

The highest percentage of patients with IBS are married and are employees or workers in different institutions or companies. Work-related stress is a well-documented risk factor that had a negative impact on performance and general health. Different studies have shown that psychosocial stress is considered a trigger factor associated with the onset of IBS attacks. This is explained by the negative effect of stress on gastrointestinal visceral hypersensitivity and the pain pathways of the gut-brain axis. Psychiatric and sleep disturbances, occupational stress, are negatively linked with the severity of IBS.<sup>[18]</sup>

In this study, a higher percentage of patients with IBS consumed caffeinated drinks and were associated with a family history of IBS. Our finding came in consistent with other studies where coffee and caffeine consumption increased the risk of IBS, especially among overweight or obese women where a significant relationship had been documented.<sup>[19]</sup>

Our findings confirm previous work indicating a positive correlation between a family history of IBS and major symptoms of abdominal pain and flatulence, especially in young individuals.<sup>[20]</sup>

In our study, smoking and a diet rich in cocoa or chocolate were not significantly correlated with IBS. In the past, the belief that cocoa could irritate the stomach and increase the severity of IBS, recently in modern research on cocoa and chocolate, indicates a positive correlation with the neurological and cardiovascular systems. These benefits may stem from flavonoid compounds.<sup>[21]</sup> In tune with our findings, IBS appears to be more prevalent among nonsmoking individuals compared to heavy smokers. The protective role of smoking in ulcerative colitis may also have some benefits for IBS since there were a large number of nonsmokers in the IBS group.<sup>[22]</sup>

Actually, very few articles have been conducted to establish the role of smoking in IBS. On the other hand, several

studies have reported no correlation between smoking status and IBS.<sup>[23,24]</sup>

A large number of participants taking medication for the treatment of different diseases as indicated in medical history. Pain killers, especially nonsteroidal anti-inflammatory drugs (NSAIDs), were widely consumed (75% of the patients). Several medications have been suggested to trigger IBS, NSAIDs, various antibiotics, oral contraceptive pills, isotretinoin, and others.

NSAIDs are closely linked to GI disorders such as peptic ulcers and IBS. Mechanistically, direct irritation and inhibition of COX enzymes are causative factors. Actually, NSAIDs are very good for joint pain, and they are bad for the gastrointestinal tract.<sup>[25]</sup>

Most patients in this work use medications to address their complaints. Mebeverine, antacids, and charcoal were among the most commonly prescribed drugs for treating IBS. It was hypothesized that nonpharmacological treatments, lifestyle, and dietary modifications, along with exercise and adequate sleep, are often recommended before resorting to drug therapies. Today, there is no standard or classical pharmacological treatment algorithm for IBS, and most available therapeutic options focus on treating and alleviating symptoms. Mebeverine is the most widely prescribed drug, in addition to antispasmodic, selective serotonin 5-HT<sub>3</sub> antagonists, antidiarrheals, and peppermint oil. Mebeverine is commonly prescribed for IBS. It blocks sodium channels, leading to smooth muscle relaxation.<sup>[26,27]</sup>

## CONCLUSION

According to our study, the common symptoms of IBS were flatulence, gastric upset, constipation, and abdominal pain. There is a positive correlation between IBS and male gender, family history of IBS, intake of caffeinated drinks, and drugs like NSAIDs. Mebeverine, antacids, and charcoal are the most used drugs to treat IBS.

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## Conflicts of interest

There are no conflicts of interest.

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