

# Factors Influencing the Severity of Irritable Bowel Syndrome in the HGE Department of the Center Hospitalier Universitaire de Cocody Abidjan CI

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## ABSTRACT

**Aim:** To determine the factors influencing the severity of IBS. **Methods:** This was a monocentric prospective cross-sectional study with an analytical aim, conducted in outpatient Hepato-Gastroenterology consultations. All patients meeting the ROME III criteria were included. **Results:** 107 patients were collected out of 1343, i.e. a prevalence of 7.96%. There was a female predominance with a sex ratio of 0.52%. The average age of our patients was 40 years. The 30-50 age group was the most represented with 60.82%. The 2 main personal histories were abdominal surgery (28.04%) and atopic terrain (16.82%). More than half of the patients, 52.34%, had a family history of IBS. The main digestive signs of IBS found were bloating (77.57%), constipation (39.25%) and abdominal pain (32.71%). The constipation-predominant IBS subtype accounted for 39.25%, followed by the alternating diarrhea/constipation (24.30%) and unclassified (24.30%) subtypes. Nearly half of our patients (44.86%) had a sign frequency of at least 3 days/week. The 3 other digestive symptoms found were rumbling (63.55%), flatulence (57.94%) and dyspepsia (48.60%). The 3 main extra-digestive signs found were low back pain (55.14%), sleep disorders (28.04%) and asthenia (23.36%). The mode of progressive installation predominated with 56.60% and the duration of evolution was long in 76.64% of patients. 51.40% of our patients reported having severe transit disorders, 42.99% moderate bloating and moderate abdominal pain in 42.99%. 54.21% of patients declared the financial cost and 35.51% absenteeism as the main impact on quality of life. The 2 main psychological factors found were stress (58.88%) and anxiety (39.25%). The practice of regular physical activity was found in 39.35% of patients. The main dietary habits were milk (61.68%), taking meals at irregular times (48.60%) and insufficient fluid intake (35.51%). In univariate analysis, there was a statistically significant association between the type of IBS and sex ( $p < 0.005$ ); between the practice of physical activity and the severity of bloating, transit disorders ( $P < 0.05$ ); between the severity of the symptoms and the sex in case of transit disorder ( $P < 0.05$ ) finally between the stress and the severity of the abdominal pain ( $p < 0.05$ ). There was no statistically significant link between the type of IBS and the frequency of signs ( $P > 0.05$ ); between

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gender and the severity of bloating and abdominal pain ( $P>0.05$ ) finally between psychological factors and the severity of bloating ( $P>0.05$ ) and transit disorders ( $P>0.05$ ). **Conclusion:** The factors influencing the severity of IBS are numerous, we note in our study the female sex, stress. On the other hand, the practice of physical activity is associated with less severity.

**Keywords:** IBS, Influencing Factors, Severity.

## INTRODUCTION

Irritable bowel syndrome (IBS) or functional bowel disorder, is a frequent disorder defined by the association of abdominal pain or digestive discomfort and transit disorders (diarrhea, constipation or a combination of both). It is a chronic pathology made up of symptomatic or painful flare-ups and periods of remission [1]. This benign disease is not life-threatening but has a significant deleterious impact on quality of life. IBS generates significant direct costs (consultations, additional examinations, medication) and indirect costs (work stoppages, reduced productivity) [2]. It is therefore a real public health issue. Severity is multidimensional but the factors influencing it are poorly known, hence the interest of our study, which aims to determine the factors influencing the severity of IBS.

## METHODS

This was a single-center prospective cross-sectional study with an analytical aim, conducted in outpatient consultations of the Hepato-Gastroenterology department at the Cocody University Hospital during the period from March 17 to July 28, 2021. Included were: all patients meeting the ROME III criteria: recurrent abdominal pain or discomfort occurring on average at least 1 day per week in the last 3 months with at least 2 of the following criteria (associated with defecation, associated with a change in stool frequency, associated with a change in stool consistency). The subgroups are defined according to the consistency of the stools according to the Bristol scale. Parameters studied: demographic (age and sex), clinical (personal family history of patients; type of IBS; frequency of symptoms; factors aggravating symptoms). The IBS score taking into account: abdominal pain, bloating, transit disorders and the overall impact of the disease. The mode of evolution according to psychological factors, eating habits and the practice of regular physical activity. Data collection was done by interviewing patients. Data entry and analysis was done in Epi-info version 7 and SPSS. The

continuous variables were expressed in mean and standard deviation and the categorical variables in number and percentage. The tests used were the chi-square correlation test at the 5% significance level.

**Results:** 107 patients were collected out of 1343, i.e. a prevalence of 7.96%. There was a female predominance with a sex ratio of 0.52%. The average age of our patients was 40 years old with extremes of 13 and 80 years old. The 30-50 age group was the most represented with 60.82%. The 2 main personal histories were abdominal surgery (28.04%) and atopic terrain (16.82%). More than half of the patients, 52.34%, had a family history of IBS. The main digestive signs of IBS found were bloating (77.57%), constipation (39.25%) and abdominal pain (32.71%) (Table 1). The constipation-predominant IBS sub-type accounted for 39.25%, followed by the alternating diarrhea/constipation (24.30%) and unclassified (24.30%) sub-types. Nearly half of our patients (44.86%) had a sign frequency of at least 3 days/week. The 3 other digestive symptoms found were rumbling (63.55%), flatulence (57.94%) and dyspepsia (48.60%). The 3 main extra-digestive signs found were low back pain (55.14%), sleep disorders (28.04%) and asthenia (23.36%). The mode of progressive installation predominated with 56.60% and the duration of evolution was long in 76.64% of patients. 51.40% of our patients reported having severe transit disorders, 42.99% moderate bloating and moderate abdominal pain in 42.99%. 54.21% of patients declared the financial cost and 35.51% absenteeism as the main impact on quality of life. The 2 main psychological factors found were stress (58.88%) and anxiety (39.25%). The practice of regular physical activity was found in 39.35% of patients. The main dietary habits were milk (61.68%), taking meals at irregular times (48.60%) and insufficient fluid intake (35.51%). In uni-variate analysis, there was a statistically significant association between the type of IBS and sex ( $p < 0.005$ ) (Table 2); between the practice of physical activity and the severity of bloating, transit disorders ( $P<0.05$ ); between the severity of the symptoms and the sex in case of transit disorder ( $P<0.05$ ) finally between the stress and the severity of the abdominal pain ( $p<0.05$ ). There was no statistically significant link between the type of IBS and the frequency of signs ( $P>0.05$ ); between gender and the severity of bloating and abdominal pain ( $P>0.05$ ) (Table 3) finally between psychological factors and the severity of bloating ( $P>0.05$ ) and transit disorders ( $P>0.05$ ).

**Table 1.** Distribution of digestive signs of IBS in our patients

	Effective	Percentage
<b>Abdominal pain</b>	35	32,71%
<b>Bloating</b>	83	77,57 %
Constipation	42	39,25 %
<b>Transit disorder</b>		
Diarrhea	13	12,14 %
Diarrhea-constipation	26	24,29 %

**Table 2.** Relationship between type of IBS and gender

Type of IBS	Female	Male	Total	P
<b>Alternation diarrhea et constipation</b>	11 (42,31%)	15 (57,69%)	26 (100%)	
<b>Predominantly constipation</b>	31(73,81%)	11 (26,19%)	42 (100%)	0,03
<b>Prédominantly diarrhea</b>	10 (76,92%)	3 (23,08%)	13 (100%)	
<b>Unclassified</b>	18 (69,23%)	8 (30,77%)	26 (100%)	

**Table 3.** Relationship between IBS severity and gender

Intensity of symptoms	Female	Male	Total	P
<b>Abdominal pain Minimale</b>	24 (70,59%)	10 (29,41%)	34	
<b>Moderate</b>	27 (58,70%)	19 (41,30%)	46	0,44
<b>Severe</b>	19 (70,37%)	8 (29,63%)	27	
<b>Bloating Minimal</b>	19 (63,33%)	11(36,67%)	30	
<b>Moderate</b>	33 (71,74%)	13 (28,26%)	46	0,44
<b>Severe</b>	18 (58,06%)	13 (41,94%)	31	
<b>Transit disorder Minimal</b>	15 (62,50%)	9 (37,50%)	24	
<b>Moderate</b>	13 (46,43%)	15 (53,57%)	28	0,02
<b>Severe</b>	42 (76,36%)	13 (23,64%)	55	

## DISCUSSION

The prevalence of IBS in our study was 7.96%, close to that of Sabate M et al. [3] in France who found a prevalence of 5% in the general population. The average age of our patients was 40.28 years. Our result was superimposed on those of Siproudhis L et al. [4] in France and Meyiz H et al. [5] in Morocco who reported an average age of 45 years. On the other hand, Okeke et al. [6] in Nigeria had reported an average age lower than ours, which was 30.80 years. The age group of 30-50 years represented 60.82% of our patients. This rate was close to those of Meyiz H. [5] in Morocco and Boubacar F et al. [7] in Senegal, who had found the age group of 35-55 years in respectively 61.8% and 59.10 % of cases. In the data from the literature, we note that IBS particularly concerns the age group from 30 to 50 years with a decrease in its prevalence beyond 60 years [8]. We found a female predominance with a sex ratio of 0.52. Our result was comparable to those of Seydou M et al. [9] in Mali and Coffin B et al. [10] in France

who had reported a female predominance with respective sex ratios of 0.57 and 0.50. On the other hand, Mahassadi et al. [11] in Ivory Coast reported a male predominance with a sex ratio of 2.55. In the literature data, IBS are more frequent in women than in men, generally due to the particular biological profile of women who are more emotional [5]. The constipation-predominant IBS subtype accounted for 39.25%. Meyiz H. [5] in Morocco and Boucekine et al. [12] in Algeria noted that the predominantly constipation subtype represented 47.44% and 37.7% respectively. 44.86% of our patients had a frequency of signs at least 3 days/week unlike Meyiz H. [5] in Morocco who reported a frequency of signs greater than 3 days/week in 38.46% of patients. In our study, 51.40% of patients reported having severe transit disorders, 42.99% moderate bloating and moderate abdominal pain in 42.99%. Meyiz H. [5] in Morocco found that the intensity of symptoms was moderate in 42.31% of patients. This difference in interpretation is due to the type of symptom

assessment score used for each study. Stress was the main psychological factor found in 58.88% of our patients. On the other hand, Naeen et al. [13] in Pakistan found anxiety in 55.80% of their patients. These variations were probably due to the fact that the majority of our patients were civil servants, and that many studies incriminate the main role of stress in the appearance of IBS in civil servants. 54.21% of our patients declared the financial cost as the main impact on quality of life. Our results were comparable to those of Emmanuel L et al. [14] in France who found the financial cost as the main impact on quality of life in 59.43% of patients. The high frequency of medical consultation, and the taking of medication generate a significant consumption of medical care, with the consequence of an increase in the cost of care [15-17]. In univariate analysis, we found a statistically significant association between the type of IBS and the sex of the patients ( $P < 0.05$ ). Constipation-predominant IBS was found the most in women at 73.81%. Sabate [3] in France noted an absence of link between sex and type of IBS. This difference could be explained by the fact that in our study, IBS are more frequent in women and that the most frequent type is predominantly constipation. We found a statistically significant association between the severity of bloating, transit disorders with.

## CONCLUSION

The factors influencing the severity of IBS are numerous, we note in our study the female sex, stress. On the other hand, the practice of physical activity is associated with less severity. Although IBD is not life-threatening, it is a chronic, relapsing disease that is often associated with impaired quality of life.

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## CONFLICTS OF INTERESTS

The authors have no conflicts of interest to declare.

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