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Irritable Bowel Syndrome: Diagnosis According to Rome III, Sub-Classification According to Bristol

Coulibaly Aboubacar[2,3*], Abdelhadi Ouédraogo[1], Sanné Zitgnimian Souleymane[5,6], Napon-Zongo Delphine[1,4], Somda Kounpièlimè Sosthène[2,3], Abdel Karim Sermé[2,3], Arsène Roger Sombié[2,3] and Sawadogo Apollinaire[1,3]

[1]*Hepato-gastroenterology Department, Souro Sanou University Hospital Center, Bobo Dioulasso.*

[2]*Hepato-gastroenterology Department, Yalgado Ouedraogo University Hospital Center, Ouagadougou.*

[3]*Health Sciences Training and Research Unit, Joseph Ki Zerbo University, Ouagadougou, Burkina Faso.*

[4]*Higher Institute of Health Sciences, Nazi Boni University, Bobo Dioulasso, Burkina Faso.*

[5]*Hepato-gastroenterology Department, Fada N'Gourma Regional University Hospital.*

[6]*Higher Institute of Health Sciences, Yembila Abdoulaye Toguyeni University, Fada N'Gourma, Burkina Faso.*

***Correspondence:**
Coulibaly Aboubacar, Hepato-gastroenterology Department, Souro Sanou University Hospital Center, Bobo Dioulasso.

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ABSTRACT

Introduction: *Irritable bowel syndrome (IBS) has long been considered a diagnosis of exclusion. Several criteria have been proposed for its diagnosis, including the Rome III criteria in 2006. While several studies elsewhere have focused on IBS, this is not the case in our study, as no study has focused on subclassification. The aim of our study was to describe the sociodemographic and clinical aspects and to make a subclassification of irritable bowel syndrome.*

Methodology: *This was a descriptive cross-sectional study conducted in four health centers in the city of Ouagadougou. Data collection was prospective over 3 months. All patients diagnosed with IBS according to the Rome III criteria were included.*

Results: *The prevalence of IBS was 22.1%. The sex ratio was 0.84. The mean age was 37.6±14.3. Abdominal pain was the primary reason for consultation (84.2%). A family history of IBS was present in 30.7% of patients. The form with constipation was the most predominant (63.4%). Dietary (69.3%) and psychological (33.7%) influencing factors were reported.*

Conclusion: *IBS is a common condition that mainly affects young people. Constipation-predominant forms are the most common in our context. Diet is the main factor influencing the pathology.*

Keywords

Irritable bowel syndrome, Rome III criteria, subclassification according to Bristol, Ouagadougou.

Introduction

Irritable bowel syndrome (IBS) is a real public health problem, with an estimated prevalence of 10 to 15% in Europe and North America [1]. It affects nearly 5% of the general population in France and represents 30 to 50% of consultations in Hepato-gastroenterology. It also represents the main reason for consultation for digestive disorders in general medicine in France [2-5].

In Burkina Faso, a 2006 study showed that irritable bowel syndrome accounted for 78.79% of functional intestinal disorders. These accounted for 22.27% of outpatient gastroenterology consultations in the city of Ouagadougou [6]. IBS is a benign,

chronic disease with a significant impact on patients' quality of life. It has long been considered a diagnosis of exclusion in clinical practice. Several criteria have been proposed to establish its diagnosis, namely Manning's in 1978, Rome I in 1992, Rome II in 1999, Rome III in 2006 and Rome IV in 2016. All these criteria are based on the clinical manifestations of the disease.

While several studies elsewhere have focused on irritable bowel syndrome, this pathology has not received the same attention in our country. To our knowledge, no study has focused on subclassification. To contribute to a better understanding of the condition in our context, this study was conducted taking into account the Rome III criteria. The aim of our work was to describe the sociodemographic and clinical aspects and to make a sub-classification of irritable bowel syndrome seen in gastroenterology outpatient consultations.

Patients and Methods

Our study was cross-sectional and descriptive with prospective data collection. It took place in 3 health centers, over a 3 months period from December 21, 2015, to March 20, 2016.

The study population consisted of all patients seen in the hepato-gastroenterology outpatient clinic for symptoms suggestive of IBS in the centers of the Yalgado Ouédraogo University Hospital, the Saint Jean Clinic and the Notre Dame de la Paix Clinic, all in Ouagadougou. Our study included all patients aged 15 years and older who were diagnosed with irritable bowel syndrome according to the Rome III criteria. All patients suffering from organic pathology associated with irritable bowel syndrome were not included.

Data were collected from medical records and direct patient interviews. After obtaining informed consent from the patients, data collection was done using an individual data collection form. Data processing was carried out using the epi info software in its version 7.0. The results were expressed in the form of mean, percentage, table and graph. The variables studied were: sociodemographic, clinical and paraclinical.

For our study, we considered the following operational definitions:

- Rome III criteria
- Eating habits were defined based on meal variation throughout the day: non-varied diet (one meal per day), moderately varied diet (two different meals per day), very varied diet (three different meals per day accompanied by fruit or vegetables)
- The socioeconomic level of patients was assessed based on their means of transport: high socioeconomic level (patients owning a 4-wheel vehicle), medium socioeconomic level (patients owning a motorcycle), low socioeconomic level (patients owning a bicycle or walking)
- Constipation: Patients with fewer than three bowel movements per week were considered constipated.
- Diarrhea was defined as the passage of more than three stools per day, more or less liquid.

Results

We collected a total of 101 patients with IBS out of 456 patients seen in outpatient clinics. The prevalence of IBS was 22.1%. Our study population consisted of 47 men (46.5%) and 54 women (53.5%), with a sex ratio of 0.87. The mean age was 37.61 ± 14.3 years, ranging from 15 to 84 years. The most affected age group was 25 to 34 years, with 40.6%. Table 1 summarizes the other sociodemographic characteristics of our patients.

Table 1: Distribution of patients according to other sociodemographic characteristics (N=101).

Sociodemographic characteristics		Number (n)	Percentage (%)
Socioeconomic level	Low	12	11.9
	Medium	61	60.4
	High	28	27.7
	Total	101	100
Marital status	Single	40	39.6
	Married	58	57.4
	Widowers/Widows	3	3
	Total	101	100
Profession	Civil servants	42	41.6
	Students	22	21.8
	Retailers	13	12.9
	Housewives	11	10.9
	Breeders/farmers	5	4.9
	Retirees	8	7.9
	Total	101	100

Abdominal pain was the most common reason for consultation. Table 2 illustrates the main reasons for consultation of our patient.

Table 2: Distribution of patients according to the main reasons for consultation (n=101).

Reasons for consultations	Number (n)	Percentage (%)
Abdominal pain	85	84.2
Constipation	64	63.4
Abdominal bloating	56	55.5
Postprandial discomfort	39	38.6
Diarrhea	10	9.9

** A patient could have several symptoms at the same time.*

The average duration of disease progression before IBS diagnosis was 62.5 months with extremes ranging from 03 months to 408 months. Among the medical histories found in these patients, purging during childhood was reported in 86.1% of cases, followed by a history of digestive tract infection, present in 51.5% of patients. Among the latter, 44.2% (n = 23) mentioned typhoid fever, while 55.8% (n = 29) were unable to specify the etiology. A surgical history was noted in 14.8% of patients (n = 15), dominated by abdominal surgery (60%, n = 8), followed by urological surgery (6.7%, n = 1). Table 3 summarizes the distribution of patients

according to gynecological and obstetric history.

Table 3: Distribution of patients according to their gynecological and obstetric history (n = 54).

Gynecological and obstetric history	Number (n)	Percentage (%)
0 Pregnancy	17	31.5
1-3 Pregnancies	22	40.7
> 4 Pregnancies	15	27.8
Abortion	7	28
Miscarriage	7	28
Caesarean section	5	20
Episiotomy	3	12
Hysterectomy	2	8
Fibromectomy	1	4

A history of conflict was found in 72.27% of patients, including a family conflict in 40.6% (n=41) and a professional conflict in 31.7% (n=32). Two women out of 54 were victims of sexual abuse in their childhood, and 06 refused to answer this question. A family history of IBS was found in 30.7% (n=31) of patients. Regarding dietary habits, 88.1% (89) consumed between 01 and 03 liters of water per day. The rest of the habits and lifestyle are summarized in Table 4.

Table 4: Distribution of patients according to their eating habits.

Eating habits	Number (n)	Percentage (%)
Unvaried diet Moderately varied diet Very varied diet	29 51 21	28.7 50.5 20.8
Coffee	23	22.8
Tea	42	41.6
Alcohol	39	38.6
Tobacco	5	5

Our patients reported their symptoms to their diet in 69.3% and 61 of them identified the offending foods shown in Table 5.

Table 5: Distribution of patients according to the type of food involved (n = 61).

Food	Number (n)	Percentage (%)
Bean	20	32.8
Bread	16	26.2
Peanut Paste	14	22.9
Peas	11	18
Milk	11	18
Rice	13	21.3
Yam/Cassava	12	19.6
Sweet drink	7	11.5
Meat	6	9.8
Alcohol	4	6.5

Stress was found to be a triggering factor for IBS in 33.7% of patients, anger was cited as a triggering factor by one patient. Attacks were relieved by diet in 31.7% of patients. The most commonly cited foods were fruits, leaves, salad, chili peppers, and milk. For more than half of our patients (53.5%), the attack was relieved by medication, and 50 (92.6%) of them were able to specify the nature of these medications, as illustrated in Table 6.

Table 6: Distribution of patients according to the type of medication used to calm the attack (n= 50).

Calming drugs	Number (n)	Percentage (%)
Laxatives	17	34
Antispasmodic	16	32
Antidiarrheal	10	20
Anti gastric acid	04	08
Analgesic	03	06
Total	**50**	**100**

Besides these two groups of patients, a third group used other sedation factors shown in Table 7.

Several functional signs associated with IBS were noted in our series. Table 8 shows the distribution according to the associated functional comorbidity.

Table 7: Distribution of patients according to other types of sedation methods.

Other sedation factors	Number (n)	Percentage (%)
Purge	9	47.4
Consumption of decoction	9	47.4
Sport	1	5.2
Total	**19**	**100**

Table 8: Distribution according to associated functional comorbidity (n=101).

Functional signs	Number (n)	Percentage (%)
Borborygmus	87	86.1
Back pain	41	40.6
Insomnia	33	32.7
Headache	30	29.7
Muscle pain	26	25.7
Proctalgia	23	22.8
Joint pain	18	17.8
Palpitation	16	15.8
Dyspnea	12	11.9
Eructation	10	10
Drowsiness	8	7.9
Urinary symptoms	8	7.9
Feeling of suffocation	5	4.9
Regurgitation	5	4.9
Nausea	3	2.9
Fainting	3	2.9
Dyspareunia	2	2
Asthenia	2	2
Anorexia	1	0.9

**A patient could present several functional signs at the same time.*

Clinically, IBS with constipation was the most common, accounting for 63.4% of cases. The different clinical forms are summarized in Table 9.

Table 9: Distribution of patients according to the different clinical forms of IBS (Rome III criteria) and the appearance of stools according to the Bristol scale (n=101).

Clinical forms of IBS and the Bristol scale	Number (n)	Percentage (%)
Constipation	**64**	**63.4**
Bristol type 1	26	40.6
type 2	15	23.4
type 3	14	21.9
type 4	7	10.9
type 5	1	1.6
type 6	1	1.6
Unclassifiable form	**18**	**17.8**
Mixed form	**11**	**10.9**
Type 2	1	9.1
Type 3	4	36.4
Type 5	1	9.1
Type 6	3	27.3
Type 7	2	18.2
Diarrhea	**8**	**7.9**
Type 5	3	37.5
Type 6	3	37.5
Type 7	2	25
Total	**101**	**100**

Discussion

The prevalence of IBS was 22.1%. Our results are similar to those of Costania in Lebanon which reported 20% [7]. Authors have reported a prevalence higher than ours [1,8-11]. Sehouno in Benin [12] with 14%, Mayindza in Gabon [13] with 12.5% and Shen in China [14] with 15.7% reported lower prevalence than ours. This difference could be explained by the use of Rome IV diagnostic criteria in their studies. IBS is a common condition worldwide.

IBS has a female predominance with a sex ratio of 0.87. This female predominance is reported in the literature [11,15,16]. This classic observation in the various studies remains unexplained. It could be related to the disruption of the cerebral integration of sensory messages of digestive origin, which is particularly marked in women during IBS [17]. The average age was 37.61 ± 14.3 years. This is a pathology of young subjects as attested by various publications [2,8,10,13,16].

More than half of our patients were of average socioeconomic status. Douglas [18] found an average socioeconomic level in 63.8% of the patients in his study. This situation would undoubtedly be related to the recruitment method; the majority of our patients having been recruited in private structures. Also, 40.6% of the patients in our study population were civil servants. Abdominal pain was the main symptom for more than ¾ of the patients. This observation corroborates the results of many authors who found this symptom as the main functional sign [8,11,13].

The average duration of disease progression before IBS diagnosis was 62.5 months. This result differs from that of Benoit [19] which were 14.1 months and 18.7 months respectively. This is explained by the fact that the patients' symptoms do not lead to complications; they are moderate pain, most often with periods of calm. In addition, some patients prefer to resort to traditional treatments or general medical consultations and only consult specialists later when there is no improvement in their state of health.

Almost all of the patients underwent therapeutic enemas in childhood. These enemas, which consist of purging newborns or children with water or decoctions, are a common practice in our regions. They are used in cases of constipation as a therapeutic means. Indeed, Camara noted that African constipation and rectal dyschezia fall under these evacuatory enemas [20]. These enemas would in fact be implicated in the pathophysiology of constipation by a lowering of the sensitivity of the rectal mucosa through the use of certain substances including chili and ginger.

More than half of our patients had a history of digestive tract infection. Several authors, such as Douglas [18], Rhodes [21], Dunlop [22] have suggested a post-infectious origin of IBS. This could be explained by the persistence of an inflammatory phenomenon of the digestive mucosa leading to a modification of digestive sensitivity and the permeability of the intestinal barrier, which would multiply the risk of IBS occurring by five [17].

Faresjo [23] noted few gynecological histories in women suffering from IBS in their series, 5.4%. In our series, the main gynecological histories were abortions and miscarriages which represented 12.9% of cases each. This difference could be explained by the small size of our sample.

We found a history of abdominal surgery in some of our patients who suffered from IBS. However, no studies have shown a link between abdominal surgery and IBS.

Conflicts were present in 72.3% of patients. These conflicts were family and/or professional. Our results overlap with those in the literature [8,10,12,15,19,23]. Circumstances of chronic psychosocial conflicts are common in patients suffering from IBS. Psychological states would have an influence on the cerebral integration of nociceptive messages coming from the digestive tract which would favor the occurrence of IBS [17].

Very few patients, 3.7%, had a history of sexual abuse in childhood or adolescence. This result is contrary to that found in French series where most patients with IBS most often report a history of sexual abuse in childhood or adolescence, 30 to 50% [24]. This difference is explained by the fact that sexuality remains a taboo in our regions. Indeed, according to a study conducted by Plan Burkina on sexual violence against children, there is a gap between the relatively high rate of disapproval and the low rate of complaints. This is why a large number of cases of sexual violence remain ignored [25].

The presence of IBS in the family of patients was found in 30.7% of cases. According to studies conducted in the United States and Australia, IBS has a genetic influence [24].

The diet in our sample was moderately varied, 50.5%. It was mainly composed of cereals and starchy products. Such a diet without fiber or fruit would be a factor in the occurrence of IBS [26]. In fact, Sabate [27] mentioned that IBS was less frequent in subjects consuming at least three complete and varied meals per day.

IBS patients often present with multiple non-digestive complaints. According to Mathieu, approximately 28 to 65% of IBS patients describe fibromyalgia, 14% suffer from chronic fatigue syndrome, and 40 to 60% of interstitial cystitis is reported in IBS [28]. Safirou [8] found insomnia, anxiety and headaches as extradigestive signs respectively in 50.2%; 32.2% and 30.4%. In our series, 40.6% of patients complained of back pain, 29.7% of headaches, 25.7% of muscle pain and 7.9% of urinary symptoms.

IBS with constipation was the most common with 63.4% of cases. Our results are identical to those of Mayindza in Gabon [13]; which found a predominance of the form with constipation (86%) and of Safirou in Conakry [8] with 60%. On the other hand, Liang and Naeem found a predominance of the mixed form in 39% and 54.9% respectively [10,15]. Ducrotte in France [29] reported a predominance of the form with diarrhea at 35.4%. This difference would be due to the dietary habits of cereals and starches and a lack of consumption of fruits and fibers in Africa; which would promote constipation [26].

Our study only included patients seen in specialist consultations, whereas many patients are limited to general practice consultations. Furthermore, the study only included three health centers in the city of Ouagadougou. These findings do not constitute major limitations or biases, and our results can be considered representative of IBS seen in outpatient gastroenterology consultations in the city of Ouagadougou.

Conclusion

Irritable bowel syndrome is a condition as common in our country as it is in the rest of the world. It mainly affects young people. The clinical symptoms are dominated by abdominal pain, and the form with predominant constipation is the most common. Joint and muscle pain, headaches, and insomnia are the most common extradigestive manifestations, thus impairing the quality of life of those who suffer from it.

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