

Diagnosing and managing irritable bowel syndrome with predominant diarrhoea in clinical practice: online survey among gastroenterologists and general practitioners

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Abstract

Introduction: Irritable bowel syndrome (IBS) represents the most common disorder of gut-brain interaction encountered in clinical practice. The Rome IV criteria define the disorder. Over the years, many guidelines proposed guidance during the diagnostic and therapeutic approach of patients with presumed IBS.

Aim: This study investigates the management of IBS with predominant diarrhoea (IBS-D) by Belgian gastroenterologists (GE) and general practitioners (GP) in daily practice.

Methods: An online vignette-based survey was conducted exploring the diagnostic and therapeutic approach of patients suffering from IBS with predominant diarrhoea (IBS-D) in primary and secondary care.

Results: 64 GE and 31 GP completed the survey. Abdominal pain and discomfort led to an IBS diagnosis in 88% and 84% of cases, respectively. The diagnosis rate dropped to 58.3% with diarrhoea as main presentation and 26.8% for patients aged 65. Additional tests were ordered by 89.5% of physicians, including biochemistry (77.9%), stool culture and parasites (59.3%), iFOBT (60.5%), breath testing (17.4%), imaging (12.8%), and endoscopy (9.3%). Upon normal results, 57% of physicians did not order further investigations. Both GP and GE preferred spasmolytics (64.3%) and dietary interventions (23.9%) as first-line treatment for IBS. Second-line treatment options included referral to a specialist or colleague (19.4%), dietary intervention (22.6%), neuromodulators (19.4%), and spasmolytics (14.5%). No GP initiated neuromodulators.

Conclusion: In Belgium, abdominal pain or discomfort are equivalent cardinal symptoms when diagnosing IBS. During the further diagnostic and therapeutic approach most physicians order only limited additional non-invasive testing. Spasmolytics and dietary interventions are favoured in first-line. Upon failure, only GE prescribe neuromodulators, while GP opt for referral. These findings are consistent with the general principles and recommendations outlined in the recently published Belgian guideline for IBS. (*Acta gastroenterol. belg.*, 2024, 87, 229-234).

Keywords: Abdominal pain, diarrhoea, functional gastrointestinal disorders, irritable bowel syndrome.

Abbreviations: DGBI, Disorders of gut-brain interactions; MD, Medical Doctors; GE, Gastroenterologists; GP, General Practitioners

Introduction

Irritable bowel syndrome (IBS) represents one of the most common disorders of gut-brain interaction (DGBI) in clinical practice, with an estimated prevalence of 5-15% depending on the applied criteria. Currently, no specific test or biomarker confirms the diagnosis of IBS (1). Since the 2016 update of the Rome criteria, the diagnosis of IBS no longer includes abdominal

discomfort but relies only on the presence of abdominal pain along with changes in stool consistency or frequency, and the absence of alarm symptoms (2). Abdominal pain implies a sharper and more distressing sensation, whereas discomfort is a more ambiguous term and suggests a more general sense of unease. Furthermore, it can be challenging to find a suitable linguistic equivalent for “abdominal discomfort” in some languages (3,4). Notwithstanding these symptom-based criteria, guidelines recommend minimal testing as part of the diagnostic process to exclude other diseases, while advising on therapeutic options (1,4-6).

In 2022, the European guidelines on the management of functional bowel disorders with diarrhoea were published (5). These recommendations encompass IBS with predominant diarrhoea (IBS-D) as well as functional diarrhoea. The guidelines point out the existing continuum between both disorders. Predominance of abdominal pain eventually determines the categorization into IBS-D over functional diarrhoea. The guidelines also emphasise the importance of a positive approach to the diagnosis, excluding alarm symptoms, while providing an overview of additional testing to consider on a case-by-case basis. Additionally, it proposes an overview of accepted pharmaceutical treatments and dietary interventions. In addition to these therapeutic strategies, the British recommendations published in 2021 also discuss the role of psychological treatments (6).

Nevertheless, despite primary care being the usual setting for the initial IBS diagnosis, surveys revealed that only a minority of general practitioners apply the Rome criteria (1,7). Even specialists encounter challenges in accurately diagnosing IBS (8). Prior to the publication of the European guidelines, we initiated an online survey to explore the habitual diagnostic and therapeutic approach of Belgian healthcare professionals towards patients with a presentation suggesting a functional disorder with diarrhoea.

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Submission date: 18/11/2023

Acceptance date: 09/02/2024

Method

To evaluate the diagnostic and therapeutic approach of general practitioners (GP) and gastroenterologists (GE) in managing patients with IBS, an online vignette-based survey was conducted. The survey included eight typical cases of functional disorder with diarrhoea, and each case comprised 15 to 21 questions, with an estimated response time of 40 minutes for the whole survey. The survey was available online between January and July 2022 in Dutch and French, and responses were anonymously recorded using the Qualtrics® online questionnaire platform. This study was conducted in accordance with the Declaration of Helsinki. As this research does not involve patients or human subjects, ethical committee approval and informed consent were not required.

Participants provided information about their experience according to number of years since graduation. The case vignettes described a reassuring symptom pattern with varying cardinal symptom (pain, discomfort, or diarrhoea) and age, along with additional information about medical and family history, physical examination, and in some vignettes results of prior diagnostic tests and response to medical therapy (see table 1). Throughout the questionnaire, the participants were repeatedly questioned about the tentative diagnosis and the diagnostic and therapeutic approach. The questions were structured as close-ended, single-answer, or multiple-choice questions. A similar set of questions was proposed for each case to allow for comparison of answers between cases.

Table 1. — Summary of the clinical cases included in the online survey on Irritable Bowel Syndrome with Diarrhea (IBS-D). The table includes the patient's age, the main presenting complaint (abdominal pain, abdominal discomfort, or diarrhea), whether results of prior examinations were provided, and whether prior treatment attempts failed

Case number	Age (y)	Main complaint	Exam results	Treatment failure
1	25	Pain	-	-
2	48	Pain	+	-
3	25	Pain	+	-
4	25	Discomfort	-	-
5	65	Pain	-	-
6	25	Diarrhoea	-	-
7	25	Diarrhoea	+	-
8	25	Diarrhoea	+	-

Statistical analysis was performed using SPSS (IBM software, version 28). Because of drop-out throughout the survey, statistical analysis only included a case's question set when completed in full. Incomplete question sets of a case were not taken into account for statistical analysis. Frequencies and differences in the diagnostic approach of medical doctors (MDs) were compared

using the chi-square quadrant test. Logistic regression identified the primary factors influencing the diagnosis of IBS. A p-value of less than 0.05 was considered statistically significant.

Results

Making the diagnosis

A total of 95 MD initiated the survey, comprising 64 GE and 31 GP. However, the participation rate dropped for the consecutive cases, with only 42 GE and 10 GP answering case 8 (Fig. 1).

Among young patients presenting with abdominal pain as the cardinal symptom, 87.4% of participants diagnosed them with IBS. Similarly, when the primary symptom was abdominal discomfort, a corresponding percentage of 84.1% was observed. However, this dropped to 58.3% when the young patient predominantly experienced diarrhoea and 26.8% for patients over 65 years old (Fig. 2).

Considering all cases, the diagnosis of IBS was influenced by the practitioner's experience ($p = 0.013$),

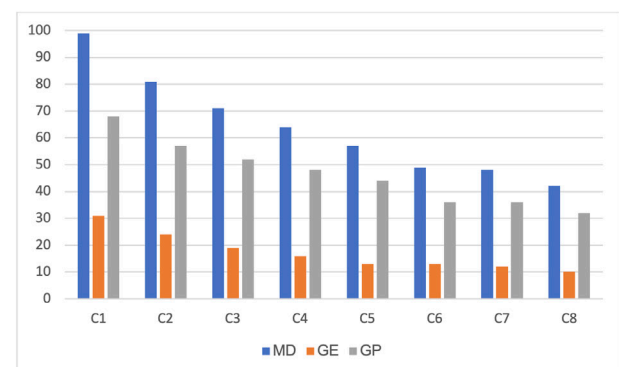


Figure 1. — Number of respondents from all medical doctors (MD), gastroenterologists (GE) and general practitioners (GP) for cases 1 to 8.

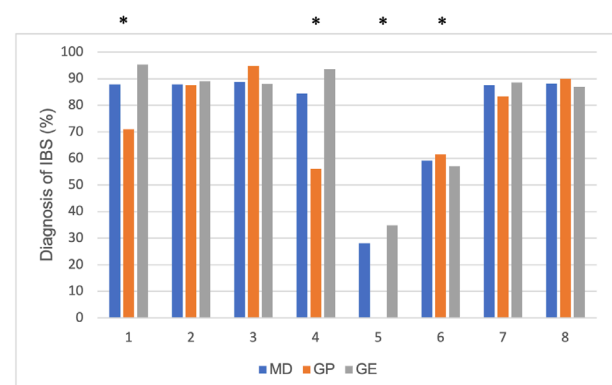


Figure 2. — Tentative diagnosis of IBS (in %) for the different cases made by all participating medical doctors (MD), gastroenterologists (GE) and general practitioners (GP). Statistical differences between GP and GE ($p < 0.05$) are noted with an asterisks (*).

specialty ($p < 0.001$), patient's age ($p < 0.001$), and availability of prior reassuring diagnostic tests ($p < 0.001$). Logistic regression analysis indicated that several factors were associated with diagnosing IBS, including patient's age, main presenting symptom, availability of prior test results, and specialty of the responder (all $p < 0.001$). The role of practitioner experience was borderline significant ($p = 0.048$).

The frequency of making a positive diagnosis of IBS was generally lower among GP compared to GE (Fig. 2), especially in the absence of additional test results.

Diagnostic approach

When diagnosing IBS in a young patient without prior work-up, 89.5% of participating MDs ordered additional tests when abdominal pain was the major presenting symptom (case 1), in contrast to 94.4% for abdominal discomfort (case 4) and 100% for diarrhoea (case 6). The most frequently ordered tests included biochemistry (77.9%), stool culture and stool parasites (59.3%), occult faecal blood test (iFOBT) and faecal calprotectin (60.5%), breath testing (17.4%), imaging (6.3% echography and 6.3% CT scan), and endoscopy (9.3%) (case 1, Fig. 3). Among the biochemistry tests, IgA antibodies against tissue transglutaminase (74.5%), complete blood count (76.6%), standard biochemistry (78.7%), and thyroid function (72.3%) were most frequently requested.

Upon normal initial testing, which included a comprehensive laboratory panel (CRP, complete blood count, calcium, glucose, thyroid function, serology for coeliac disease all within normal ranges), low fecal calprotectin and normal findings on abdominal ultrasound, 57% of participants did not order further investigations. However, some participants opted for additional tests, including breath testing (23.3%), endoscopy (10.5%), imaging (4.7%), stool analysis (4.7%), iFOBT and faecal calprotectin (4.7%), and SeHCAT (2.3% of participants).

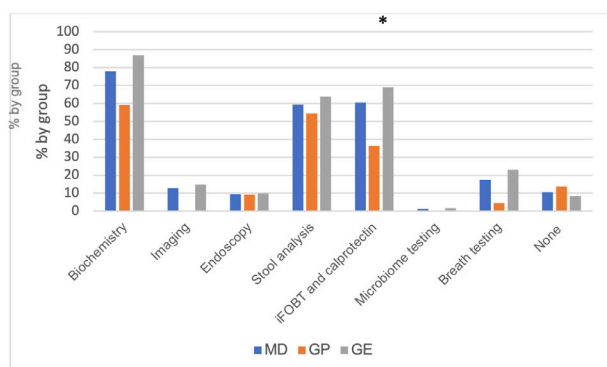


Figure 3. — Diagnostic work up during the evaluation of a young patient with typical IBS symptoms. Responses are plotted on the y axis as percentage. Difference in approach between GP and GE ($p < 0.05$) are noted with an asterisks (*). MD = medical doctor; GP = general practitioner; GE = gastroenterologist

In elderly patients (>50 years, case 5), the most requested tests included biochemistry (81.3%), endoscopy (81.3%), and stool analysis (62.5%). When compared to younger patients, endoscopy ($p < 0.001$) was more frequently ordered in older patients with predominant abdominal pain (case 1).

Except for iFOBT and faecal calprotectin ($p = 0.008$), no significant statistical differences were observed in the diagnostic work-up between GE and GP (Fig. 3).

Management

When diagnosing IBS – D with predominant abdominal pain (case 1), spasmolytics (64.3%) and dietary intervention (23.9%) were the preferred first-line treatments (Fig. 4A). No differences were observed in the therapeutic approach between GP and GE. As for second-line treatments, preferred options included dietary interventions (22.6%), neuromodulators (19.4%), referral to a specialist or colleague (19.4%), and spasmolytics (14.5%). In third-line treatment, referral to a specialist or colleague (28.8%) and neuromodulators (20.3%) were the preferred options. GP favored referral (61.1%) and dietary interventions (27.8%) in the second line (Fig. 4B), while GE preferred antidepressants (27.3%) and spasmolytics (18.2%) (Fig. 4C). No statistical differences

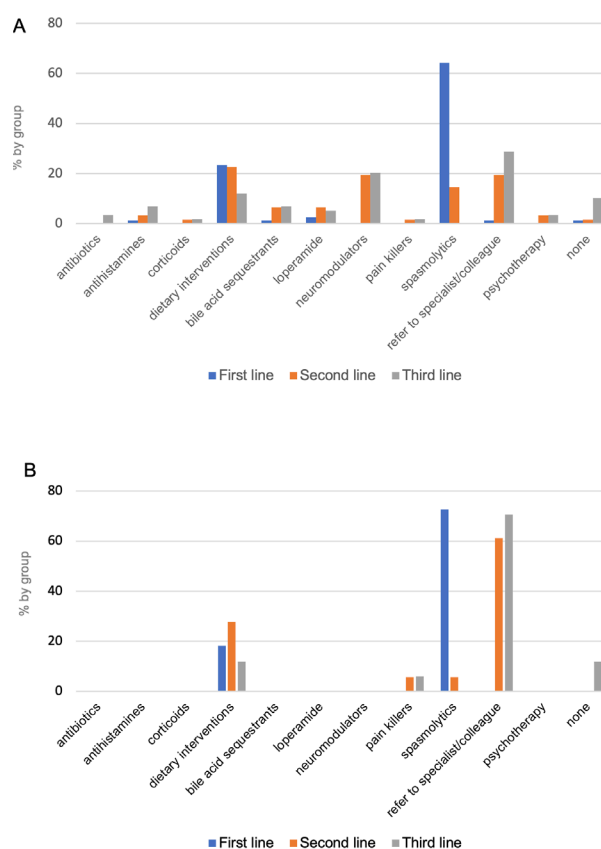


Figure 4. — Management preferences for a young IBS-D patient with abdominal pain as main presenting symptom (case 1) in first, second and third line in (A) MDs, (B) GP and (C) GE.

were found between GE and GP in both first and second-line treatments. In third line, most GP (70.6%) choose to refer the patient to a specialist (Fig. 4B), while GE favoured neuromodulators (28.6%), referral (11.9%), antihistaminics (9.5%), and bile acid sequestrants (9.5%) (Fig. 4C).

For both cases characterized by predominant abdominal discomfort (as in case 4) and predominant diarrhea (as in case 6), preferred treatments were spasmolytics (64.2% and 34.5%, respectively) and dietary interventions (16.9% and 24.1%, respectively).

Discussion

We conducted an online survey to assess the diagnostic and therapeutic practices of medical doctors in primary and secondary care in Belgium regarding functional bowel disorders with diarrhoea. The survey reveals that several factors influence the confidence in diagnosing IBS, including the patient's age, cardinal symptom, practitioner's experience, specialty, and availability of prior test results. Especially, the predominance of diarrhoea results in a less frequent diagnosis of IBS, while a presentation with abdominal pain or discomfort makes no difference. GP and GE commonly order non-invasive tests when suspecting IBS. Spasmolytics and dietary intervention are the preferred first-line options. For second-line treatments, GPs favour referral to a specialist and dietary interventions, while GEs lean towards prescribing neuromodulators and spasmolytics. In further lines, neuromodulators are predominantly initiated by GE, whereas GP opt for referral.

IBS diagnosis relies mainly on clinical criteria. Since the 2016 update of the Rome criteria, abdominal discomfort is no longer considered part of the diagnosis (2,9). While the Rome criteria are valuable for categorizing functional bowel disorders, aiming at increasing diagnostic homogeneity within groups to further research in the field of DGBI. However, whether stringent diagnostic criteria are mandatory for clinical practice remains a matter of debate. Indeed, Rome IV-positive IBS represents a subgroup with more severe symptoms, particularly related to abdominal pain, and more psychological comorbidities as compared to ROME III or self-diagnosed IBS patients (9-12). Studies show that the prevalence of IBS decreases, and overall IBS symptom severity increases when applying Rome IV criteria instead of Rome III (9-12). As evidenced by the current survey, in clinical practice, Belgian MD rather comply to the ROME III criteria as evidenced by the comparable rates of IBS diagnosis for abdominal pain vs. discomfort as main presenting symptom. Prior studies comparing IBS with pain vs discomfort only evidenced differences in symptom intensity, while symptom frequencies, psychological comorbidities and quality of life remained comparable (13). The authors concluded that distinction between pain and discomfort could reflect a different degree of sensation rather than

different diseases. Additionally, bowel symptoms are highly prevalent in the general population, with self-reported 'IBS' being three times more common than Rome IV criteria suggest (14).

Diarrhoea as main presentation reduced the respondents' diagnosis of IBS. However, reassuring test results restored the rates of IBS diagnosis to levels similar to abdominal pain and discomfort. This might reflect the fact that participants initially considered chronic diarrhoea rather than functional diarrhea in such cases, leading them to a more thorough diagnostic approach. Although the European guidelines present a similar diagnostic approach for IBS-D and functional diarrhoea, the British guidelines recommend exclusion of faecal parasites, coeliac disease and upon suspicion investigation for IBD and cancer, before considering a functional disorder (15). This was also emphasized in a subsequent Belgian review on chronic diarrhoea (16).

The diagnostic work-up of the respondents largely aligns with the current Belgian, British and European guidelines, emphasizing limited non-invasive testing (4-6). According to these guidelines, fecal calprotectin is recommended to distinguish IBS from IBD (4-6). However, while 68.9% of GE adhere to this recommendation, only 36.4% of GP do. This notable difference is consistent with UK findings, where non-compliance with NICE guidance is linked to inadequate information for GP on testing and interpreting results (17). In Belgium, calprotectin is reimbursed only for Crohn's disease follow-up, limiting its use in clinical practice. This may explain the general practitioners' hesitancy to order it. Interestingly, more than half of the healthcare professionals refrain from further investigations when the initial tests yield reassuring results, which is consistent with findings from a similar study conducted in Spain (18). In the presence of alarm signs, such as age above 50 years, four out of five MD order a colonoscopy, as proposed by the European guideline (5). This contrasts with breath testing, which is frequently ordered in this survey, despite its questionable clinical value (4,19).

In terms of management, the European, British, and Belgian guidelines recommend a stepwise approach (4-6). In the current study, spasmolytics and dietary interventions are the preferred first-line treatments, which is consistent with the guidelines. Studies among primary care physicians in the United States and gastroenterologists in Spain harbored similar figures (18, 20). For refractory cases, GP tend to refer the patient to a colleague or specialist, while GE, as indicated by a recent survey in the United States, opt for neuromodulators (21). This discrepancy may reflect the varying levels of familiarity or confidence in prescribing neuromodulators among GP, or a decreased confidence in the IBS diagnosis after initial treatment failure (22).

Based on the results, we conclude that the current clinical practice in Belgium is consistent with the recently published guidelines for IBS evaluation and treatment. This contrasts with previous findings from a

study conducted in the United States where adherence to published guidelines was relatively low among primary care physicians (20).

It is important to acknowledge some limitations of this survey, including the fact that it presented 8 separate cases, all focusing on IBS-D. This repetition of cases centered on the same disorder could potentially have led to panel conditioning and resulted in changing responses as participants became more familiar with the topic of interest. However, as an IBS diagnosis was less frequently considered for the cases presented later on during this survey, such as case 5 (older age) and 6 (diarrhoea as predominant presentation), the impact of conditioning seems limited. While most IBS patients are managed in primary care, the participation rate of general practitioners in this study was relatively low (32.6%), limiting direct between-group comparisons. Conducting the study during the end of the COVID pandemic, which still implied a heavier administrative workload for GP, might explain the relative low numbers of participating GPs. Other possible reasons include lack of time, absence of incentive for participation and lack of interest in IBS management.

The overall response rate was also modest (95 participants), with a decreasing number of responses for each subsequent case, indicating potential survey fatigue. Efforts were made to maximize response rates through widespread distribution and direct contact with representatives of both GP and GE, irrespective of the subspecialty or level of interest in DGBI. However, factors such as lack of interest in surveys analyzing clinical practice, IBS, and time constraints could influence the low response rate. Additionally, the length of the questionnaire might have further impacted the response rate, and this should be taken into consideration when designing future surveys. However, the average response time was about 40 minutes, as expected from study design. Furthermore, it is essential to note that the survey did not delve into specific dietary advice provided to patients with IBS. As per the guidelines, a low FODMAP diet has been found effective in managing IBS symptoms, whereas a gluten-free diet is not (4-6).

Another limitation of this survey is the lack of data on the effect of patient sex on presumed diagnosis and requested test. While our analysis explored various factors such as age, cardinal symptom, and medical history, the influence of patient sex was not a focus of our investigation. While sex does not come into play in the Rome criteria, the European or Belgian IBS guidelines, IBS prevalence is higher in women. Furthermore, sex disparities are observed when diagnosing IBD (23), colorectal cancer (24) or coeliac disease (25). This highlights the need for future research to examine how sex impacts on clinical decision-making including diagnostic choices and therapeutic preferences. Next, the survey was underpowered to address the role played by the subspecialty of GE and experience of GP in treating functional disorders. However, we may assume that

GE and GP interested in such disorders are more prone to participate. This in turn explains the high rate of adherence to the guidelines observed for most cases. A different survey design with cases focusing on a larger set of GI pathologies might partially overcome this bias. Similarly, involving a larger group of GP and GE, would ascertain to what degree both groups are knowledgeable about the guidelines on the management guidelines for IBS. As mentioned earlier on, attempts were made to reach out to MD with different interest. Thirdly, the difficult availability of psychotherapy, such as Cognitive Behavioral Therapy (CBT), in Belgium might have influenced treatment options and outcomes compared to countries where it is recommended (5,6). Lastly, the use of survey-based data collection may introduce response bias, potentially leading to discrepancies between reported practices and actual clinical decisions. Direct practice assessments could overcome such issues, but come at high costs in time and work.

Conclusion

Despite these limitations, this survey provides valuable insights into the current diagnostic and therapeutic practices of Belgian healthcare professionals, when managing patients with IBS symptoms. Overall, both GP and GE adhere to the general principles and recommendations outlined in the European guidelines for the management of functional bowel disorders with diarrhoea, while considering abdominal pain and discomfort at the same level. Increasing the knowledge about neuromodulators in GP represents a potential educational target.

Conflict of interest

Phyline Casteels: non conflict of interest. Sébastien Kindt: speaker's fees from Truvion healthcare. Consultancy for Truvion healthcare and Ipsen NV. Advisory board for Truvion Healthcare.

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