

Title:
Perceptions of the public healthcare system from private-care patients with irritable bowel syndrome with constipation in Spain

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DOI: 10.17235/reed.2018.5526/2018

Link: [PubMed \(Epub ahead of print\)](#)

Please cite this article as:

Mira José Joaquín, Lacima Glòria, Cortés Gil Xavier. Perceptions of the public healthcare system from private-care patients with irritable bowel syndrome with constipation in Spain. Rev Esp Enferm Dig 2018. doi: 10.17235/reed.2018.5526/2018.

Enero 2017 • Volumen 109 • Número 1 • Páginas 1-86

CODE: READON ISSN: 100-0108

Revista Española de Enfermedades Digestivas
THE SPANISH JOURNAL OF GASTROENTEROLOGY

Acceso al texto completo en: www.reed.es y www.sped.es

Factor de impacto JCR®: 1.455 (2016)
SCR: 0.34 (2016)

ORGANO OFICIAL DE:
SOCIEDAD ESPAÑOLA DE PATOLOGÍA DIGESTIVA, SOCIEDAD ESPAÑOLA DE ENDOSCOPIA DIGESTIVA Y ASOCIACIÓN ESPAÑOLA DE ECOGRAFÍA DIGESTIVA

SEPO

Editorial
Celiac disease: bleeding. Have we identified the risk factors for massive bleeding yet?
J. W. Barcia Valencia

Trabajos Originales
Risk factors for severity and recurrence of celiac disease: bleeding
N. Aragón, P. Cabero, A. Arduas, M. Escobar and N. Guzmán
Hemangiomas and inflammatory bowel disease: the other diagnosis
J. Barrio, A. Rojas, S. López-Castaño, J. Cuervo, M. Acuña-Barca, M. Hernández-Solis, C. García, M. de la Cruz, D. Barrio and A. López-Castaño
Influence of sustained vital response on the regression of fibrosis and portal hypertension in cirrhotic HCV patients treated with antiviral therapy
A. Barrio, J. Cabero, W. J. López-Alas, I. L. Fariña, M. T. Arán, A. Galván, F. Castells, E. Fabrega and J. Crespo
Malnutrition risk questionnaire combined with body composition measurement in metabolic screening in inflammatory bowel disease
A. A. Cortés, A. Muñoz, Z. Pri, I. Pall and P. Muñoz
A survey-based analysis on endoscopic quality indicators compliance among Spanish endoscopists
I. Fernández-Cruz, F. Argüelles, P. Alonso, J. Soto and S. Soriano

Revisión
Endoscopic resection of colonic polyps in patients on antiplatelet therapy: an evidence-based guideline for clinicians
G. Piana, M. Sostero-Sabin, C. Salinas, F. Day and M. J. Cuervo

Indicadores en Patología Digestiva
Trastorno de la arteria mesentérica superior: una causa infrecuente de obstrucción intestinal
J. Sempere Jaquea, P. Abellá-Serna y J. C. García-Pérez
Neumatox sintica intestinal
A. F. Romero-Muñoz y K. Barrio-Zelga
Trastorno de Hirsch y síndromes autoinmunitarios
C. Oba-Sudo, C. C. Hernández, J. J. Pineda-Rodríguez y A. N. González-Fernández
Endoscopic retrieval of trichobezoars in a schizophrenic patient
J. L. Bermejo-Hernández, M. E. Torres-Castro and M. Torres-Rodríguez
All that glitters is not gold. A different cause for an "obscure colitis"
A. Pineda, W. Shu, J. Vila-Buen and S. Navas

Lesión de Bouveret: diagnóstico por gastroscopia
R. Barrio-Gómez, N. N. Barrio-Frutos, M. Paz-Naves y J. E. Domínguez Muñoz

Notas Clínicas
Celiac crisis in adults: a case report and review of the literature focusing in the presentation of bleeding syndrome
M. de Alaveda-Nemón, V. L. Barrio-Cabral and S. L. Latorre
Hemangiomas: benign pathosis. Una localización infrecuente de tumor vascular
J. Barrio-Albal, J. M. García-González, L. Aguirre-Díaz, A. W. Quintana-Rivero y A. Cortés-Muñoz
Hemofilia por erupción papilar intracutánea
C. Pérez-Carpas, A. Escobedo-Sánchez, M. A. Paredes-Capó, J. Arangul-Robich y C. García-Delgado
Endoscopic removal of intubated large varicose veins: a case report
M. Ochoa-García and S. Torres-Munoz
Mesenteric schwannoma: an unusual cause of abdominal mass
A. Tapia-Palacio, M. R. Ramos-Vázquez, J. C. Cortés-Ramos, J. Cornejo-Larrea and D. L. Cortés-Pérez

Cartas del Editor
Neoplasia neuroendocrina intestinal, un tumor poco habitual
M. de Barrio-Nave, J. Santos-Fernández y M. N. Naves-Rodríguez
Presentación intestinal de tuberculosis por radiografía perfil gástrico asociada a compresión de Bouveret, patología infrecuente y poco conocida
Y. Pineda-Vargas, D. W. Acosta y L. A. Alvarez
Peroral endoscopic myotomy for an achalasia patient with multiple esophageal diverticula
Y. Su, H. Zhu and D. Liu
Análisis y endoscopia intestinal, entidades infrecuentes en el diagnóstico diferencial de abdomen agudo
C. Sánchez-Jiménez, J. Goveas-Nave y J. A. Abad-Pérez
Perforación múltiple de divertículos de intestino delgado en paciente con síndrome de Ulcers-Duodenitis
R. Hernández-Cano, A. Barrio-Castro y E. Muñoz-López
Altopercia anular como manifestación paraneoplásica de un adenocarcinoma gástrico
J. J. Barrio-Otero, F. Fernández-Serrano y J. de la Fuente-Aguado

Revisores 2016

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OR 5526

Perceptions of the public healthcare system from private-care patients with irritable bowel syndrome with constipation in Spain

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Received: 9/02/2018

Accepted: 09/05/2018

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CONFLICT OF INTEREST

José Joaquín Mira has participated in research and workshops funded by Almirall, S.A. Glòria Lacima has no conflicting interests. Xavier Cortés Gil is an employee of Almirall, S.A. Data from this study can be obtained by contacting IRmedcom@allergan.com.

ABSTRACT

Background: Irritable bowel syndrome (IBS) is associated with reduced health-related quality of life. Patients with IBS benefit from positive patient-provider experiences during treatment. However, many continue to suffer from limited symptom relief and hold negative perceptions.

Purpose: to identify potential barriers perceived by patients with IBS with constipation (IBS-C) within the the private health care system compared with the care under the public healthcare system in Spain.

Methods: this is a multicentre, cross-sectional observational study. Patients with previous experience of public healthcare who attended a private consultation with a gastroenterologist due to constipation/abdominal discomfort, with no previous IBS diagnosis and meeting Rome III criteria without alarm symptoms, were invited to join the study. Participants completed the Irritable Bowel Syndrome Patient Experience questionnaire, the Irritable Bowel Syndrome Symptom Severity Score questionnaire and the EuroQol five-dimensions questionnaire, reporting their health-related quality of life.

Results: seven hundred and seven patients met the study criteria and were evaluated. With regard to public healthcare, patients reported feeling more positive towards their gastroenterologist (62.8% satisfied) than their primary care physician (43.9% satisfied). Patients reported moderate/severe problems with pain/discomfort (61.5%). The majority of patients were treated with fiber (85.3%), laxatives (79.3%) and antispasmodics (54.3%); 47.0% and 11.7% of patients noted little and no improvement, respectively.

Conclusions: the perceptions of patients with irritable bowel syndrome and constipation were more positive towards their gastroenterologist than their primary care physician in the public healthcare sector. However, patients were still dissatisfied with the treatment and care received, highlighting the unmet need for improved patient-provider communication to achieve better outcomes.

Key words: Irritable bowel syndrome. Constipation. Health personnel. Spain. Disease management.

INTRODUCTION

Irritable bowel syndrome (IBS) is a chronic, functional gastrointestinal disorder characterized by abdominal pain and a change in bowel habits. The global prevalence of IBS ranges from 5% to 15% and the prevalence of IBS in Spain has been estimated at 10% via a personal interview, home-based study of 2,000 individuals in the general population (1,2). However, prevalence estimates can vary depending on the diagnostic criteria used. Prevalence estimates from a study in the UK, USA and Canada, with the currently used Rome IV criteria, appear to be lower. The range was 7.1% to 7.5% for females and 3.6% to 5.1% for males (3). IBS with constipation (IBS-C) is a subtype of IBS where pain persists with

difficult, infrequent or incomplete defecation (4). IBS-C has been associated with poor health-related quality of life, greater loss of work productivity and impairment of activity and an increased use of healthcare resources, as compared with people without IBS-C (5).

Treatment modalities for IBS-C depend on symptom severity (6). In Spain, initial treatments can involve patient education of IBS and instructions for a specific, balanced diet and exercise (6). Other methods for managing constipation include increased fluid intake and soluble fibers, as well as osmotic/stimulant laxatives (4,6). Treatment for pain include spasmolytics and mint essence, as well as antidepressants such as serotonin reuptake inhibitors, including fluoxetine. Psychological treatments such as cognitive behavioral therapy and hypnosis may also provide relief.

Linaclotide, a guanylate cyclase-C receptor agonist is approved for the treatment of IBS-C in Spain. This has been shown to be effective in Phase 3 clinical trials for the European Medicines Agency responder endpoints (abdominal pain/discomfort and degree of relief) and is also safe to use (4,7,8). In a meta-analysis, linaclotide treatment also improved bowel function and reduced abdominal pain and overall symptom severity compared with the placebo (9). Successful treatment of IBS requires a strong relationship between the healthcare provider (HCP) and the patient (10,11), where the HCP educates the patient regarding the utility and safety of available diagnostic tests and treatments (4). In a randomized clinical trial of patients with IBS from Boston, Massachusetts, in the USA, a supportive patient-HCP relationship was shown to significantly improve symptoms and quality of life (12).

However, the diagnosis and management of IBS can be challenging for HCPs. IBS is a heterogeneous disorder and symptoms are often non-specific and can also be somatic or psychological in nature. Furthermore, the response to treatment can vary (13). In addition, treatment failure is common, resulting in increased use of healthcare resources, despite the variety of therapeutic options available. A claims-based study of a US population that received public funding (Medicaid) found that over 50% of patients with IBS-C and patients with chronic constipation had more than one indicator of treatment failure. These included switching from one treatment to another, use of a more aggressive prescription and an inpatient stay or visit to an Emergency Department even after treatment (14). Overall, previous studies in Spain and the UK have demonstrated that patients are skeptical about

the treatments they receive. They feel they have insufficient knowledge of IBS and do not perceive a benefit from their treatments (11,15).

An understanding of perceptions of public healthcare is important as 71.5% of healthcare spending in Spain was in the public sector in 2013 (16). A previous study in Spain analyzed the problems experienced with IBS management within the public healthcare system, from both a patient and HCP perspective (11). Patients were most concerned with delays in confirming a diagnosis and the inability to understand IBS and cope with the disease on a daily basis. HCPs felt that the greatest difficulty in treating patients with IBS was the low adherence to treatment plans. Further understanding of the barriers to achieve a positive patient-HCP relationship may help to improve patient outcome (11). This study aimed to assess the perceptions of the care received in the public healthcare system by patients with IBS-C that also received private healthcare in Spain. The study used established patient questionnaires to identify the barriers to receiving proper care. A previous survey indicated that 73% vs 31% of patients with IBS viewed their gastroenterologist (GE) vs their primary care physician (PCP) as being a source of knowledge about IBS (11). This led to the hypothesis that more patients in private healthcare would prefer the care given by a GE rather than a PCP in the public healthcare system for IBS-C.

MATERIAL AND METHODS

Study design and patient selection

This was a multicenter, cross-sectional observational study of patients aged ≥ 18 years who had previously received care from a PCP and/or a GE in the public healthcare system who subsequently attended a private GE consultation due to constipation and abdominal discomfort. Subjects met two criteria at the time of survey completion during the visit. One criteria was that patients experienced constipation and abdominal discomfort, with no confirmed previous IBS diagnosis. Constipation was defined as a patients' perception of a reduction in the frequency of bowel movements and difficulty with bowel movements, and abdominal discomfort included any symptoms of pain, discomfort, abdominal distension, abdominal bloating and flatulence. The second criteria was that patients met the Rome III criteria for IBS (17), including the presence of pain or abdominal discomfort (symptoms present for at least three days a month in the past three months, having started a minimum

of six months previously) combined with two or more of the following symptoms: pain improved with defecation; the onset of pain was associated with a change in bowel movement frequency; and the onset of pain was associated with a change in stool form (based on the Bristol Stool Form Scale [18]). No patients were excluded based on IBS subtype. Written informed consent was obtained from each patient included in the study. Patients were excluded if they did not sign the informed consent for the study, had any medical or psychological disorder that could limit their ability to understand and answer questions regarding their condition, or had any clinical history suggestive of the presence of any gastrointestinal-related disease other than IBS. These included: unexplained weight loss, fever, blood in the stool, previous ingestion of antibiotics, onset of symptoms aged over 50 years, family history of bowel cancer, IBS or celiac disease, and ongoing bowel cancer or suspicion of celiac disease or gluten-sensitive enteropathy. The Clinical Research Ethics Committee of the Hospital Clínic de Barcelona was responsible for evaluating the study ethics and approval of the study was granted by the Committee on the 13th of March 2015. The study protocol conforms with the ethical guidelines of the 1975 Declaration of Helsinki, as reflected in the ethical approval by the human research committee of the Hospital Clínic de Barcelona.

Primary and secondary objectives

The primary objective of this study was to determine the perceptions of patients with IBS visiting GE specialists in the private healthcare system in relation to the care they received from PCPs and GE specialists in the Spanish public healthcare system. The secondary objectives were to determine the severity of IBS and the health-related quality of life. Patients' perceptions of care from PCPs and GEs in public healthcare and treatments received from public healthcare were evaluated via the IBS Patient Experience questionnaire (11). Symptom severity and health-related quality of life were assessed using the IBS Symptom Severity Score questionnaire (19) and the EuroQol five-dimensions (20-22) questionnaire, respectively.

Questionnaires

A total of 174 GE specialists from the private healthcare system were recruited into the study and data was collected from patients between the 2nd of March 2015 and 16th of October 2015. A total patient population of 897 was estimated in order to evaluate the primary endpoint, considering an expected satisfaction percentage of 70%, 3% accuracy and 95% confidence level. The GE specialists selected patients who met the inclusion criteria. The selected patients provided their medical history and completed three questionnaires regarding their current symptoms and previous experiences with the public healthcare system within a single visit.

The IBS Patient Experience questionnaire developed in Spain (11) was used to determine patients' perceptions in relation to the public healthcare they had previously received. The questionnaire comprised questions with a yes/no response that related to experiences with PCPs and GEs in the public healthcare system. This included questions on topics such as the ability of the provider to provide comprehensible explanations of IBS and control of IBS symptoms via treatment or lifestyle changes, as well as their ability to listen. This questionnaire was validated by comparison to other findings from similar studies in the United Kingdom (23) and Boston in the United States (24). The IBS Symptom Severity Score questionnaire (19) was used to characterize the severity of IBS. The results were based on a visual analogue scale and the overall symptom severity score was defined using the following formula: pain severity + distension severity + satisfaction with bowel habits + impact of symptoms. Severity was presented on a scale of 0-100, where 0 indicated no pain and 100 indicated the greatest pain severity. Patients completed the EuroQol five-dimensions questionnaire (20-22) to describe their health-related quality of life. Patients reported whether they had no problems, mild problems, moderate problems, severe problems or a complete incapacity in lifestyle categories including mobility, personal care, everyday activities, pain/discomfort and anxiety/depression. The IBS Patient Experience questionnaire (11), the IBS Symptom Severity Score questionnaire (25) and the EuroQol five-dimensions questionnaire (26,27) have been adapted and validated for use in Spain.

Statistical analysis

The number of patients were recorded and relative frequencies (percentages) were calculated for each categorical variable. With regard to continuous variables, the mean,

standard deviation, median, minimum and maximum were calculated where applicable. Percentages were calculated considering the total number of patients with available data. Statistical analyses were performed using SPSS Statistics version 23.0 (IBM SPSS, Inc., Chicago, IL, USA).

RESULTS

Patient demographics and characteristics

A total of 926 patients were recruited and 922 had recorded patient histories and completed questionnaires; 707 evaluable patients were analyzed (Fig. 1). The mean age was 45.6 years and 80.9% were female (Table 1). The majority of patients in the study had IBS-C (87.1%), with an overall mean bowel movement frequency of two times per week (range, 0-25) and comorbidities including headaches (35.6%), back pain (28.1%) and insomnia (23.8%). The most common recurring IBS symptoms included pain (81.6%), abdominal distension (67.6%) and bloating (66.6%).

Most patients had seen a public PCP (80.5%) or GE (63.4%) within the past 12 months. The main reasons patients reported for visiting a private GE were to seek a second opinion (41.4%) or because they felt that their public HCP had not satisfactorily resolved their condition (36.6%). Less than half of the patients (45.9%) reported that their medical public and/or private healthcare visits included an explanation of the condition, the physician listened to them, established prognostic limits or involved them in the treatment. The median time elapsed since symptom onset and their first visit to an HCP for their symptoms was three and two years, respectively.

With regard to socio-economic characteristics, patients had various levels of education and most had completed university studies (34.9%). Although the majority of patients were working (64.8%), some patients reported being unemployed (17.7%), unfit for work (6.8%) or on leave from work (4.2%). Many patients reported no problems with their employment (64.4%). However, some patients reported a lack of understanding from co-workers (17.2%) and that IBS symptoms affected their ability to look for work (7.0%), to maintain academic performance (7.0%) and to maintain a work position (4.1% left or changed work and 2.6% took leave from work).

Patient perceptions of treatment and the care received in the public healthcare system

Patients in this study received various treatments in the public and/or private healthcare system, including a specific diet, exercise, alternative medicines and pharmacological treatments (Table 1). With regard to perceptions of treatment received from the public healthcare system, the majority of patients (73.1%) understood what the medication was and how it should be administered (Table 2). However, a high proportion of patients observed no (11.7%), little (47.0%) or some (25.9%) improvement in their condition as a result of the treatment. A similar proportion of patients (60.1%) discontinued their medication as it did not suit them or did not improve their condition.

With regards to care received in the public healthcare system, patients had a more positive perception of their GE than their PCP in terms of listening (77.4% vs 59.4%) (Fig. 2). During communications between patients and their HCP, more patients felt that their GE provided enough time for consultation compared to their PCP (53.5% vs 30.5%). Furthermore, patients were provided with written advice on treatment and management of IBS more often by their GE than their PCP (50.1% vs 28.9%). Fewer patients felt they were wasting their time when attending a consultation with their GE (27.8%) compared to their PCP (52.4%). More patients trusted that their GE was knowledgeable about their condition and chose the appropriate treatment (63.6%) compared with their PCP (33.7%). Overall, 74.2% of patients thought that coordination between PCPs and GEs was fair, poor or very poor. Patient perceptions were generally more positive towards their GE (62.8%) than their PCP (43.9%).

Symptom severity

Patients reported frequently suffering from both abdominal pain (90.0%) and distension (91.5%) in the IBS Symptom Severity Score questionnaire (Table 3). With regard to severity, the mean scores (\pm standard deviation) were all over 50 (abdominal pain: 58.3 ± 18.3 ; abdominal distension: 61.9 ± 17.9 ; satisfaction with bowel habits: 73.2 ± 21.7 ; interference of IBS with life in general: 61.5 ± 21.1). The overall symptom severity score was 258.6 ± 57.5 and the majority of patients were considered to have moderate (68.9%) or severe (21.7%) symptoms.

Impact of IBS on patients' health-related quality of life

The majority of patient-reported problems were pain/discomfort and anxiety/depression, followed by problems with everyday activities (Fig. 3). Over 90% of patients had pain/discomfort, with many reporting mild (33.1%), moderate (46.7%) and severe (14.8%) problems. About two-thirds of patients had anxiety/depression, with many reporting mild (40.3%), moderate (18.7%) and severe (8.4%) problems. Approximately half of patients had problems with everyday activities as follows: mild (30.0%), moderate (11.9%) and severe (2.3%). The majority of patients did not have any problems with mobility (79.4%) or personal care (88.9%).

DISCUSSION

The majority of patients within the study cohort throughout Spain felt that their PCP did not provide enough time during their consultation to explain the problem. These results parallel a previous online study which found that a little over half of patients (n = 106, 54%) characterized their relationship with their HCP as negative. The primary concern was that HCPs did not provide enough empathy and listening time for patients to explain how IBS affected their lives (10). However, this study was not performed in Spain, therefore, a direct comparison cannot be made.

Nevertheless, a greater number of patients consistently reported more positive feelings towards GEs than PCPs for every question in the questionnaire. More patients felt that their GE was knowledgeable about IBS and chose the appropriate treatment (63.6%) compared to their PCP (33.7%). This is similar to a previously reported study of a Spanish population, where 73% of patients felt that their GE was knowledgeable about IBS compared with 31% for PCPs (11). Even though patients felt more positive about their GE than their PCP, 27.8% still felt that they were wasting their time attending a consultation and 37.2% were not satisfied with the care they received from their GE. This study confirmed several barriers that led to a lack of patient satisfaction, including not enough time spent with the HCP and a lack of information on IBS. This is similar to that reported previously (11).

Typical symptoms were reported in this study, including abdominal pain and distention, and many patients had experienced symptoms for several years before diagnosis. Patient health-related quality of life was diminished, with patients suffering limitations in daily activities

and experiencing pain/discomfort and anxiety/depression. Results from the EuroQol five-dimensions questionnaire were similar to those reported by a German population, where the majority of patients reported moderate to severe problems with pain/discomfort, followed by anxiety/depression (28). Over half of the patients observed some, little or no improvement of IBS as a result of their treatment. This is likely due to the general reservation patients have about the efficacy of available IBS treatments, as described in previous studies from Spain and the UK (11,15), rather than the use of public vs private healthcare.

The diagnosis and management of IBS can be challenging regardless of the attending HCP type. Altered peripheral regulation of gut function, altered brain-gut signaling and psychological distress have all been identified as potential components of IBS symptoms. However, a single integrated explanatory model for IBS has not yet been developed (29). A combination of physiological, psychological and social aspects of IBS could influence symptom severity, health-related quality of life and the global perception of the disease. Factors such as lifestyle habits or comorbidities, such as dyspepsia and psychological abnormalities, among others, could also be influence and contribute to the complexity of the disease. Although PCPs can identify IBS symptoms, they have a heterogeneous view of the causes of IBS and relatively few PCPs have heard of formal diagnostic criteria (Manning or Rome) (30). Although GEs are aware of clinical guidelines for the diagnosis and management of IBS, studies have shown that they do not systematically follow these guidelines. Eighty per cent of respondents to a survey of GEs in Spain managed IBS symptoms using their own criteria based on symptoms (1). A survey of international PCPs, GEs and IBS experts found that IBS was often endorsed as a diagnosis of exclusion, which resulted in an increased use of healthcare resources (31). Developing research on the mechanisms of IBS, conceptualizing IBS using explanatory models for clinical practice and increased education initiatives for both patients and HCPs will improve patient-HCP communication of IBS and may help to overcome these barriers.

Although findings from this study mirror those of previous studies, limitations must be taken into consideration when interpreting the results. There may be bias resulting from the exclusive participation of patients from private practices, who may have a different socio-economic status from those routinely using the public healthcare system. Those who never

received private healthcare due to various reasons such as lack of resources were not included. This study focused on perceptions of patients attending a private rather than public consultation, as the majority of these patients had experienced both healthcare systems, switching from the public to the private system when seeking care for their IBS-C symptoms. Therefore, observations may be more applicable to certain autonomous regions that have higher rates of private care. In 2014, approximately 56% of all private hospitals were located in Catalonia, Madrid and Andalusia and the greatest number of private hospitals among the total hospitals were in Catalonia, Navarra and Galicia (16).

Participants who suffered delays or a misdiagnosis of IBS-C while receiving public healthcare that resulted in a dissatisfaction with the system and those who were concerned about malignancies and thus demanded further diagnostic evaluations such as colonoscopy may also influence our findings. Although patients were asked to provide their perceptions on PCPs and GEs in the public healthcare system, patients may have assessed private healthcare GEs previously sought for consultation, rather than those in the public system. These patients may have returned to visit the same GE as they had built trust from previous consultations. Abdominal symptoms reported by some patients may have been due to other disorders rather than IBS and patients with diarrhea were not excluded. Therefore, patients with a false diagnosis may have been included. In addition, only patients meeting the Rome III criteria during the private GE visit and hence diagnosed at the time of completing the survey completion were included. This was to avoid the bias towards past medical practices when a proper diagnosis of IBS was less common (3).

CONCLUSIONS

In this study, patients with IBS-C reported that their symptoms affected their health-related quality of life; these included abdominal pain and distention. Furthermore, many patients experienced these symptoms for years before being formally diagnosed. The perceptions of patients with a previous experience of public healthcare on the care they received within the public healthcare system were more positive towards their GE than their PCP. However, many patients with IBS feel that they are not listened to or are wasting their time seeing a HCP, especially in the case of primary care. Although the majority of patients were receiving pharmacological treatment, they perceived little or no improvement in their condition. The

socio-labor consequences of IBS should be addressed. This is a priority that is not given sufficient attention during consultations. Results from this study suggest that empathy via listening, openness in discussing symptoms and providing enough time for the consultation appear to be essential for the patient-HCP interaction and may relieve the stigma that patients often associate with their symptoms. Further understanding of IBS pathophysiology and a stronger communication between patients and their HCP may lead to an improved diagnosis, treatment and management of IBS.

ACKNOWLEDGEMENTS

This work was supported by Almirall, S.A. and Allergan plc but received no specific grant from any funding agency in the public, commercial or not-for-profit sectors. The authors would like to thank Karen B. Chien, PhD, of Complete HealthVizion, Inc., Chicago, IL, USA, for editorial assistance in the writing and review of the manuscript based on a detailed discussion and feedback from all the authors. This assistance was funded by Allergan plc.

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Table 1. Patient demographics and disease characteristics

	<i>Evaluable patients (n = 707)</i>
Patient age, years, mean \pm SD	45.6 \pm 14.0
Female, n (%) (n = 1 missing)	572 (80.9)
<i>IBS subtype, n (%) (n = 2 missing)</i>	
IBS-C	616 (87.1)
Mixed or unclassified IBS	84 (11.9)
IBS-D	5 (0.7)
<i>Comorbidities, n (%)</i>	
Headaches	252 (35.6)
Back pain	199 (28.1)
Insomnia	168 (23.8)
Fibromyalgia	101 (14.3)
Chronic fatigue	96 (13.6)
Dysmenorrhea	67 (9.5)
<i>Presence of symptoms associated with the upper GI tract, n (%)</i>	
Post-prandial fullness	365 (51.6)
Early satiety	222 (31.4)
Belching	203 (28.7)
Nausea	141 (19.9)
Halitosis	109 (15.4)
<i>Recurrent IBS symptoms, n (%)</i>	
Abdominal pain	577 (81.6)
Abdominal distension	478 (67.6)
Abdominal bloating	471 (66.6)
Altered bowel habits	462 (65.3)
Discomfort	367 (51.9)
Flatulence	311 (44.0)
Other	14 (2.0)
<i>Public HCP seen in the past 12 months, n (%)</i>	

PCP	569 (80.5)
GE	448 (63.4)
Psychiatrist (mental health)	39 (5.5)
Surgeon	14 (2.0)
<i>Reason for visit to a private GE, n (%)</i>	
Seeking a second opinion	293 (41.4)
Public HCP has not satisfactorily resolved the condition	259 (36.6)
Seeing usual specialist	179 (25.3)
Other	29 (4.1)
Time elapsed since the first symptoms of constipation and abdominal discomfort, years, median (min, max)	3 (0, 65)
Time elapsed since the first visit to any HCP due to constipation and abdominal discomfort, years, median (min, max)	2 (0, 40)
<hr/> <i>Treatment received by the patient, n (%)*</i>	
Exercise	298 (42.1)
Specific diet	291 (41.2)
<i>Alternative medicine</i>	
Homeopathy	35 (5.0)
Acupuncture	19 (2.7)
Other	11 (1.6)
<i>Pharmacological treatment</i>	
Fiber	603 (85.3)
Laxatives	561 (79.3)
Antispasmodics	384 (54.3)
Prebiotics	180 (25.5)
Antidepressants	163 (23.1)
Antibiotics	49 (6.9)
Anti-diarrheal	36 (5.1)
Serotonin receptor modulators	32 (4.5)
<hr/> <i>Socio-economic characteristics, n (%)</i>	
<i>Level of education (n = 2 missing)</i>	

University studies	246 (34.9)
Secondary studies	162 (23.0)
Professional training	146 (20.7)
Primary studies or equivalent	131 (18.5)
No studies	20 (2.8)
<i>Current employment situation (n = 34 missing)</i>	
Working	436 (64.8)
Unemployed	119 (17.7)
Unfit for work	46 (6.8)
Studying	44 (6.5)
On leave from work	28 (4.2)
<i>Patient-reported effects of their IBS condition on employment status (n = 103 missing)</i>	
No problems with their employment	390 (64.6)
Lack of understanding from colleagues and bosses on their IBS	104 (17.2)
IBS symptoms affect ability to look for work	42 (7.0)
IBS symptoms affect academic performance	42 (7.0)
Required to leave or change work because of IBS	25 (4.1)
Required to take leave from work because of IBS	16 (2.6)

Percentages were calculated considering the total number of patients with available data.

*Treatments may include those received in the public or private healthcare system.

GE: gastroenterologist; GI: gastrointestinal; HCP: healthcare provider; IBS: irritable bowel syndrome; IBS-C: irritable bowel syndrome with constipation; IBS-D: irritable bowel syndrome with diarrhea; PCP: primary care physician; SD: standard deviation.

Table 2. Patients' perceptions of treatment in the public healthcare system

<i>n (%)</i>	<i>Evaluable patients (n = 707)</i>
<i>With regard to the medication, do you know what the medication is and when and how to take it? (n = 12 missing)</i>	
Yes	508 (73.1)
No	187 (26.9)
<i>Have you noticed any improvement as a result of the treatment? (n = 13 missing)</i>	
None	81 (11.7)
Little	326 (47.0)
Some	180 (25.9)
Quite a lot	87 (12.5)
A lot	20 (2.9)
<i>Have you stopped taking the medication because it does not suit you or is not helping you get better? (n = 17 missing)</i>	
Yes	415 (60.1)
No	275 (39.9)

Percentages were calculated considering the total number of patients for whom data were available.

Table 3. Results from the IBS Symptom Severity Score questionnaire

	<i>Evaluable patients (n = 707)</i>
Frequently suffer abdominal pain, n (%) (n = 2 missing)	636 (90.0)
Severity of abdominal pain (0 = no pain, 100 = very severe), mean \pm SD (n = 1 missing)	58.3 \pm 18.3
Number of days in pain every 10 days, median (min, max) (n = 45 missing)	5 (1, 10)
Frequently suffer abdominal distension, n (%) (n = 7 missing)	647 (91.5)
Severity of abdominal distension (0 = no distension, 100 = very severe), mean \pm SD (n = 1 missing)	61.9 \pm 17.9
Satisfaction with bowel habits (0 = very satisfied, 100 = very dissatisfied), mean \pm SD (n = 3 missing)	73.2 \pm 21.7
Interference of IBS with life in general (0 = not at all, 100 = completely), mean \pm SD (n = 3 missing)	61.5 \pm 21.1
Overall symptom severity score, mean \pm SD (n = 2 missing)	258.6 \pm 57.5
Patients with mild symptoms (overall score < 175), n (%)	55 (9.4)
Patients with moderate symptoms (overall score 175-300), n (%)	404 (68.9)
Patients with severe symptoms (overall score > 300), n (%)	127 (21.7)

Percentages were calculated considering the total number of patients with available data.

IBS: irritable bowel syndrome; SD: standard deviation.

Fig. 1. Patient recruitment. The IBS Patient Experience questionnaire was developed by the Spanish Society for Quality in Healthcare (Sociedad Española de Calidad Asistencial).

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Fig. 2. Patient perceptions of the care from primary care physicians and gastroenterologists in the public healthcare system.

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Fig. 3. Results of the EuroQol five-dimensions questionnaire.

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