Original Research Article

A physician-based study to assess the prevalence, current treatment standards, and therapy need gaps in the management of irritable bowel syndrome in India

Keyur Sheth*

Department of Gastroenterology, Hepatology and Interventional Endoscopy, Chembur, Mumbai, Maharashtra, India

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*Correspondence:
Dr. Keyur Sheth,
E-mail: itsdr@hotmail.com

ABSTRACT

Background: Irritable bowel syndrome (IBS) is the most common functional gastrointestinal disorder that can significantly affect quality of life. A physician-based survey was conducted to understand the prevalence, current treatment strategies, and gaps in IBS management in India.
Methods: A total of 197 physicians participated to complete a questionnaire comprising 36 questions related to the prevalence and current treatment of IBS and assess gaps in its management.
Results: Most physicians take a detailed history of the IBS syndrome and association-driven criteria to diagnose IBS. Most physicians reported that >50% of the patients had IBS mixed with anxiety, and most patients with IBS suffered for 2-4 weeks before seeking medical consultation. Most respondents reported that IBS patients took home remedies before consultation. Respondents ranked mebeverine plus chlordiazepoxide, followed by mebeverine monotherapy as preferred treatment for management of IBS symptoms. Mebeverine plus chlordiazepoxide was most preferred for IBS patients with anxiety. More than 70 % of physicians reported that mebeverine and its combination with chlordiazepoxide were efficacious with no adverse events for all subtypes of IBS. Most physicians prescribed probiotics with multiple strains for 2-4 weeks in patients with IBS.
Conclusions: IBS is a common gastrointestinal disorder with no apparent diagnosis and management. The survey findings support the use of mebeverine therapy for the management of IBS symptoms.

Keywords: Irritable bowel syndrome, Mebeverine, Probiotics, Anxiety, Chlordiazepoxide

INTRODUCTION

Irritable bowel syndrome (IBS) is the most common functional gastrointestinal disorder that can significantly affect quality of life, including various social and psychological factors.[1,2] The global prevalence of IBS in the general population ranges from 9% to 22%, and its prevalence in India ranges from 4.0% to 7.9%.[3-7] Over the last 20 years, rapid socioeconomic development in Asia has led to a transition in health and environmental status of the general population. The prevalence of IBS among Asian countries appears to be rapidly increasing.[8] Although the etiology of IBS remains elusive, it has a significant impact on quality of life and social functioning of patients.[9] Moreover, a strong association exists between IBS and psychological illnesses, anxiety, and depression.[10,11] According to a meta-analysis, the prevalence of anxiety symptoms in patients with IBS was reported at 39.1%, while the prevalence of depressive symptoms was 28.8%.[12] Other reasons have been proposed, including nutrition, gut bacteria, atypical sensitivity of gut viscera, gut dysmotility, and moderate chronic inflammation. Minimal proportions of patients with IBS seek medical attention, most of whom receive primary care.[13]

According to the Rome III criteria, IBS symptoms are characterized as abdominal pain, discomfort, or bloating accompanied by a change in bowel habit, and these symptoms can resolve by defecation.[14] The symptom of abdominal pain is the most important based on the recently published Rome IV criteria, and it is known to reduce or increase after defecation.[15]

There is no specific test to diagnose IBS definitively. However, physicians need to take a complete medical history and perform physical examination and tests to rule out other gastrointestinal conditions, such as celiac disease.[14,15] IBS can be managed with a range of drugs and nonpharmacological methods in current clinical practice.[16,17] Nonpharmacological methods, including dietary changes, increased physical activity, and psychological counseling, are commonly recommended in the early stages of treatment.[16,17] Pharmacological management is recommended in conjunction with non-pharmacological management, and the drug is chosen based on the presence of constipation or diarrhea and the symptom of bowel habit.[16,17]

Despite the high prevalence, impact on quality of life, and social impact of IBS, physicians' perceptions of the disease and their choice of treatment strategies have not been extensively studied.[18] A key challenge is that physicians and patients with IBS often have differing perspectives on the nature and severity of gastrointestinal symptoms, and many patients with IBS may not be aware of being afflicted with this disorder.[18] Indeed, some physicians may encounter challenges in treating IBS, which has comparable symptoms to ulcerative colitis, Crohn's disease, and celiac disease.

Additionally, counselling and lifestyle modification play a role in management as well. Here, a physician-based survey was conducted to assess the prevalence, current treatment strategies and gaps in the management of patients with IBS in India.

METHODS

Survey

This was a cross-sectional, questionnaire-based survey conducted between March 2021 and December 2021 to assess prevalence of, treatment strategies for, and gaps in the diagnosis and management of patients with IBS across India. A total of 197 physicians involved in the clinical practice of IBS from all 4 zones across India participated in the survey. Participants were invited to complete the internet-based structured survey questionnaire. The survey questionnaire was developed based on a study by Darvish-Damavandi et al and comprised of 36 questions, including questions on understanding IBS prevalence, diagnosis, and current treatment options (Table 1).[19] This survey was performed in accordance with the protocol, International Conference on Harmonization-Good Clinical Practice (ICH-GCP) guidelines. Informed consent was obtained

from the participating physicians. Because this survey did not entail any direct patient intervention, ethical clearance by an external ethics review board was not obtained. The confidentiality and identity of the participating physicians were preserved throughout the survey and data processing.

Data analysis

A formal sample size estimate was not done for this survey, but with 197 respondents and 36 questions, a respondent-to-item ratio of >8 was maintained, in line with previous studies recommending a respondent-to-item ratio of >2.[20] The process of data entry and quality checking was performed along with query resolution. Responses to all questions by the 197 survey respondents were expressed as proportions (percentages) across different categories. The rank data were calculated by the weighted linear combination method and determined which answer choice was preferred overall. The response with the largest weighted sum ranking was the most preferred choice, and the weights were applied in reverse. Statistical analyses were performed using statistical package for the social sciences (SPSS) software version 25.0 (IBM Corp., Armonk, NY, USA) and Microsoft excel 2019 (Microsoft Corporation).

RESULTS

Prevalence of patients by IBS subtype

When assessed by clinical presentation of IBS symptoms, IBS-D was present in 10-30% of patients according to 43.7% of physicians, IBS-C was present in 10-30% of patients according to 59.9% of physicians, IBS-mixed was present in 10-30% of patients according to 34.0% of physicians, and IBS with anxiety was present in >50% of patients according to 38.6% of physicians (Figure 1).

Prevalence of IBS by gender

With regard to gender-wise prevalence of patients with IBS, 3.6%, 52.3%, 42.1%, and 2.0% of physicians reported that the prevalence of male patients was <25%, 25%-50%, 50%-75%, and >75%, respectively. According to 5.6%, 45.7%, 43.7%, and 5.1% of patients, the prevalence of female patients was 25%, 25-50%, 50-75%, and >75%, respectively.

Consultation, diagnosis, and challenges in the management of IBS

In all, 45.7% of physicians opined that patients typically suffer from IBS for 2-4 weeks before they consult a physician, while 35.5% of physicians reported that this duration was 2-6 months due to lack of awareness (Table 3). Majority of the physicians (61.7%) opined that patients take home remedies before physician consultation.

Regarding the mode adopted by physicians for diagnosis of IBS, 92.9% stated that they first take a detailed history

of the IBS syndrome, 87.3% reported that they used association-driven criteria (Rome IV/Manning) to diagnose IBS in their regular practice, and 68.0% implement diagnostic modalities for excluding IBS (Table 2).

Concerning the key challenges in IBS management, 84.8% of physicians faced challenges in history taking and counseling as they believed that patients need extensive support in managing their recurrent symptoms (Table 3).

Regarding support needed to be extended to IBS patients, 95.4% of physicians considered diet and lifestyle counselling, 89.3% considered psychological counselling support, 63.5% considered history taking per Rome IV criteria, and 42.1% considered patient communities as useful strategies. Notably, in the general approach to managing patients with IBS with anxiety, 91.4% of physicians considered the combination of an antispasmodic with chlordiazepoxide to be effective (Table 3).

Preferred pharmacotherapies for reducing IBS symptoms

For management of IBS symptoms, the most preferred pharmacotherapy was mebeverine plus chlordiazepoxide by 40.6% physicians, mebeverine monotherapy by 26.9% physicians, clidinium bromide plus chlordiazepoxide by 11.7% physicians, and clidinium bromide with dicyclomine plus chlordiazepoxide by 15.2% physicians. Moreover, more than half the physicians ranked mebeverine monotherapy (rank 1=26.9% and rank 2=23.9%) or mebeverine plus chlordiazepoxide (rank 1=40.6% and rank 2=33.0%) as the top two preferred therapies. Overall, physicians ranked mebeverine plus chlordiazepoxide as the most preferred therapy, followed by mebeverine (Figure 2).

Prescription pattern and duration of therapies for IBS management

In all, 39.6% of physicians reported that a combination of mebeverine and chlordiazepoxide was prescribed to >50% of IBS patients with anxiety. Concerning the prescription pattern for management of IBS symptoms, mebeverine monotherapy was prescribed to <15% of patients by 45.7% of physicians, mebeverine plus chlordiazepoxide was prescribed to 15-30% of patients by 37.6% of physicians, clidinium bromide plus chlordiazepoxide was prescribed to 15-30% of patients by 39.6% of physicians, and clidinium bromide plus dicyclomine and chlordiazepoxide was prescribed to <15% times of patients by 40.1% of physicians (Table 4).

The preferred average duration of prescription by therapy type was 4 to 8 weeks for duration by 44.7%, 41.6%, and 37.6% of physicians prescribing mebeverine monotherapy, mebeverine plus chlordiazepoxide, and clidinium bromide plus chlordiazepoxide, respectively.

Overall, it was observed that >70% of physicians preferred mebeverine or mebeverine plus chlordiazepoxide for at least 4 weeks (Table 4).

Physicians' perspectives on efficacy and tolerability of mebeverine and its combination

When physicians were asked to opine on their perception about efficacy and tolerability of mebeverine monotherapy, 21.3% rated it as extremely efficacious, and 46.2% rated it as efficacious. Mebeverine plus chlordiazepoxide combination was rated as extremely efficacious and efficacious by 27.9% and 49.8% of physicians, respectively (Figure 3). Furthermore, mebeverine was reported to be extremely safe by 40.6% of physicians and safe by 52.8% of the physicians, whereas mebeverine plus chlordiazepoxide was reported as extremely safe and safe by 18.8% and 54.8% of the physicians, respectively (Figure 3).

Majority of the physicians (64.5%) responded that mebeverine or its combination with chlordiazepoxide was useful in all subtypes of IBS, namely, IBS-C, IBS-D, and IBS-mixed. Interestingly, only 29.4% of physicians felt that mebeverine or its combination with chlordiazepoxide was useful in IBS-mixed, and only 21.3% of physicians felt that it was useful in IBS-D (Table 5). Notably, 71.1% of physicians felt that mebeverine or its combination with chlordiazepoxide was not associated with any side effects.

Regarding the advantage of mebeverine, 81.7% of physicians reported that mebeverine had all the listed benefits such as gut-specific antispasmodic action, usefulness in all IBS subtypes, Rome IV recommendation, and absence of anticholinergic side-effects, with 15.7% of physicians reporting that its gut-specific antispasmodic action was an advantage (Figure 4).

Physicians' preference for probiotics

In terms of probiotic preferences for managing various bowel diseases, 72.1%, 65.0%, and 55.3% of physicians prescribed probiotics for IBS with small intestinal bacterial overgrowth (SIBO), IBD, and 55.3% IBS, respectively (Figure 5). On advocating the usage of probiotics, 52.8% of physicians recommended their use for 2-4 weeks, while 25.4% recommended them for 1-2 weeks (Table 6). For patients with IBS, majority of the physicians (53.3%) preferred multiple strains of probiotics, whereas *Lactobacillus*, *Bifidobacterium*, and *Saccharomyces* were preferred by 25.9%, 18.8%, and 2.0% of physicians, respectively (Table 6). For patients with IBS and associated SIBO who are on antibiotics, 48.2% of physicians stated that they prescribed sequential usage of probiotics after antibiotic, 40.6% stated that simultaneous usage along with an antibiotic was preferred, and 11.6% stated that they did not prefer use of probiotics in such patients. Most physicians (79.7%) preferred prescribing a probiotic resistant to rifaximin (Table 6).

Table 1: Survey questionnaire.

Section 1: Prevalence of IBS			
Q1	What is the percentage of patients who present with symptoms of IBS-D?		
	a) <10%　　　　　　b) 10%-30%		c) 30%-50%　　　d) >50%
Q2	What is the percentage of patients who present with symptoms of IBS-C?		
	a) <10%　　　　　　b) 10%-30%		c) 30%-50%　　　d) >50%
Q3	What is the percentage of patients who present with symptoms of IBS-mixed?		
	a) <10%　　　　　　b) 10%-30%		c) 30%-50%　　　d) >50%
Q4	What is the percentage of patients who present with symptoms of IBS with anxiety?		
	a) <10%　　　　　　b) 10%-30%		c) 30%-50%　　　d) >50%
Q5	What is percentage breakup of male patients with IBS?		
	a) <25%　　　　　　b) 25%-50%		c) 50%-75%　　　d) >75%
Q6	What is percentage breakup of female patients with IBS?		
	a) <25%　　　　　　b) 25%-50%		c) 50%-75%　　　d) >75%
Q7	How long do patients typically suffer from IBS symptoms before they consult you?		
	a) 2-4 weeks　　　　b) 4-8 weeks		c) 2-6 months　　d) >6 months
Q8	Do the patients take home remedy before visiting you?		
	a) Yes (name_____)　　b) No		
Q9	How do you diagnose IBS (tick all options that apply)?		
	a) Detailed history taking	b) Association driven criteria (Rome IV/Manning, etc.)	c) Diagnostic modalities for excluding IBS
Q10	Which of the following are key challenges that you face in managing patients with IBS?		
	a) History taking as they have a lot to say	b) Counseling as they need a lot of support in managing their recurrent symptoms	c) Both a & b　　d) Others ………
Q11	What is the general approach in managing patients with IBS with anxiety?		
	a) Plain antispasmodic	b) Antispasmodic combination with chlordiazepoxide	c) Anti-diarrheal or laxatives/fibers as per symptoms
Q12	Rank the following based on your preference to help reduce IBS symptoms? (mention as 1-5; 1 being highest and 5 being lowest)		
	Drug	Rank (1-5)	
	Mebeverine		
	Mebeverine + chlordiazepoxide		
	Clidinium bromide + chlordiazepoxide		
	Clidinium bromide + dicyclomine + chlordiazepoxide		
	Others …………		
Q13	To what % of patients with IBS and anxiety do you prescribe a combination of mebeverine and chlordiazepoxide?		
	a) <15%　　　　b) 15%-30%	c) 30%-50%	d) >50%
Q14	To what % of patients with IBS do you prescribe mebeverine monotherapy?		
	a) <15%　　　　b) 15%-30%	c) 30%-50%	d) >50%
Q15	To what % of patients with IBS do you prescribe a combination of mebeverine and chlordiazepoxide?		
	a) <15%　　　　b) 15%-30%　　c) 30%-50%		d) >50%
Q16	To what % of patients with IBS do you prescribe a combination of clidinium bromide and chlordiazepoxide?		
	a) <15%　　　　b) 15%-30%　　c) 30%-50%		d) >50%
Q17	To what % of patients with IBS do you prescribe a combination of clidinium bromide + dicyclomine + chlordiazepoxide?		
	a) <15%　　　　b) 15%-30%　　c) 30%-50%		d) >50%
Q18	On an average, for how much duration is mebeverine monotherapy prescribed to a patient with IBS?		
	a) <2 weeks　　b) 2-4 weeks　　c) 4-8 weeks		d) >8 weeks
Q19	On an average, for how much duration is a combination of mebeverine and chlordiazepoxide prescribed to a patient with IBS?		
	a) <2 weeks　　b) 2-4 weeks　　c) 4-8 weeks		d) >8 weeks

Continued.

Section 1: Prevalence of IBS				
Q20	On an average, for how much duration is a combination of clidinium bromide and chlordiazepoxide prescribed to a patient with IBS?			
	a) <2 weeks	b) 2-4 weeks	c) 4-8 weeks	d) >8 weeks
Q21	How would you rate the efficacy of mebeverine monotherapy to reduce IBS symptoms?			
	a) Extremely efficacious	b) Efficacious	c) Varies from patient to patient	d) Poor efficacy	e) Very poor efficacy
Q22	How would you rate the efficacy of combination of mebeverine and chlordiazepoxide to reduce IBS symptoms?			
	a) Extremely efficacious	b) Efficacious	c) Varies from patient to patient	d) Poor efficacy	e) Very poor efficacy
Q23	How would you rate the tolerability of mebeverine monotherapy to reduce IBS symptoms?			
	a) Extremely safe	b) Safe	c) Varies from patient to patient	d) Side effects seen in a few	e) Side effects seen in many patients
Q24	How would you rate the tolerability of combination of mebeverine and chlordiazepoxide to reduce IBS symptoms?			
	a) Extremely safe	b) Safe	c) Varies from patient to patient	d) Side effects seen in a few	e) Side effects seen in many patients
Q25	Do your patients who are prescribed mebeverine monotherapy or combination of mebeverine and chlordiazepoxide complain about any side effects?			
	a) Yes – Which ones? _____		b) No	
Q26	In which subtype of IBS, do you find mebeverine monotherapy or combination of mebeverine and chlordiazepoxide useful (tick all that apply)?			
	a) IBS-C	b) IBS-D	c) IBS-mixed	d) All subtypes
Q27	What according to you are the advantages of mebeverine? (tick all that apply)?			
	a) Gut-specific antispasmodic	b) Useful in all sub types of IBS	c) Rome IV recommended	d) No anticholinergic side-effects	e) All of the above
Q28	Which of the following would you find useful in extending support to IBS patients (tick all that apply)?			
	a) Diet and lifestyle counseling support	b) Psychological counseling support	c) History taking tracker as per Rome IV criteria	d) Patient community	e) Others
Q29	Do you prescribe probiotics in patients with IBS?			
	a) Yes		b) No	
Q30	Do you prescribe probiotics in patients with IBD?			
	a) Yes		b) No	
Q31	Do you prescribe probiotics in patients with IBS and SIBO?			
	a) Yes		b) No	
Q32	Do you prescribe probiotics in patients with other GI conditions?			
	a) Yes (please specify_____)		b) No	
Q33	In the above patients, for how long do you advocate usage of probiotics?			
	a) <1 week	b) 1-2 weeks	c) 2-4 weeks	d) >4 weeks
Q34	Which probiotic do you prefer to use in IBS patients?			
	a) Lactobacillus	b) Saccharomyces	c) Bifidobacterium	d) Multiple strains
Q35	Do you prescribe probiotics to patients with IBS and associated SIBO who are on antibiotics?			
	a) Yes, sequential usage of probiotic after antibiotic	b) Yes, simultaneous usage along with antibiotic	c) No	
Q36	Would you prefer to prescribe a probiotic that is resistant to rifaximin (antibiotic)?			
	a) Yes		b) No	

IBS, irritable bowel syndrome; IBS-C, IBS with constipation; IBS-D, IBS with diarrhea; SIBO, small intestinal bacterial overgrowth

Table 2: Features of IBS among Indian patients.

Variables	Frequency, n (%), N=197
Duration of IBS before physician consultation	
2-4 weeks	90 (45.7)
4-8 weeks	12 (6.1)
2-6 months	70 (35.5)

Continued.

Variables	Frequency, n (%), N=197
>6 months	25 (12.7)
Home remedy for IBS before physician consultation	
Yes	122 (61.9)
No	75 (38.1)
Mode of IBS diagnosis	
Detailed history taking	183 (92.9)
Association-driven criteria (Rome IV/Manning, etc.)	172 (87.3)
Diagnostic modalities for excluding IBS	134 (68.0)
Key challenges in IBS management	
History taking as they have a lot to say	7 (3.6)
Counselling as they need a lot of support in managing their recurrent symptoms	23 (11.7)
Both of the above	167 (84.8)
General approach in managing patients with IBS with anxiety	
Plain antispasmodic	5 (2.5)
Antispasmodic combination with chlordiazepoxide	180 (91.4)
Anti-diarrheal or laxatives/fibres as per symptoms	12 (6.1)

IBS: Irritable bowel syndrome

Table 3: Prescription pattern and duration of therapies for patients with IBS.

Parameters	Proportion of physicians, n (%); N=197			
Prescription pattern for IBS with anxiety	**<15%**	**15-30%**	**30-50%**	**>50%**
Mebeverine + chlordiazepoxide for IBS with anxiety	7 (3.5)	50 (25.4)	62 (31.5)	78 (39.6)
Prescription pattern for IBS	**<15%**	**15-30%**	**30-50%**	**>50%**
Mebeverine monotherapy	90 (45.7)	67 (34.0)	30 (15.2)	10 (5.1)
Mebeverine + chlordiazepoxide	35 (17.8)	74 (37.6)	59 (29.9)	29 (14.7)
Clidinium bromide + chlordiazepoxide	40 (20.3)	78 (39.6)	63 (32.0)	16 (8.1)
Clidinium bromide + dicyclomine + chlordiazepoxide	79 (40.1)	45 (22.8)	55 (27.9)	18 (9.1)
Prescription duration for IBS	**<2 weeks**	**2-4 weeks**	**4-8 weeks**	**>8 weeks**
Mebeverine monotherapy	13 (6.6)	39 (19.8)	88 (44.7)	57 (28.9)
Mebeverine + chlordiazepoxide	12 (6.1)	42 (21.3)	82 (41.6)	61 (31.0)
Clidinium bromide + chlordiazepoxide	21 (10.7)	54 (27.4)	74 (37.6)	48 (24.4)

IBS: Irritable bowel syndrome

Table 4: Physicians' perspectives on usefulness, side effects, and advantages of mebeverine or its combination with chlordiazepoxide in patients with IBS.

Proportion of physicians, n (%)	Frequency; N=197
Usefulness in	
IBS-C	10 (5.1)
IBS-D	42 (21.3)
IBS-mixed	58 (29.4)
All subtypes	127 (64.5)
Side effects	
Yes	57 (28.9)
No	140 (71.1)

IBS: Irritable bowel syndrome

Table 5: Physicians' experience about the prescribing pattern of probiotics in patients with various gastrointestinal disorders.

Proportion of physicians, n (%)	N=197
Prescribed duration of usage of probiotics (weeks)	
<1	3 (1.5)
1-2	50 (25.4)
2-4	104 (52.8)

Proportion of physicians, n (%)	N=197
>4	40 (20.3)
Preferred probiotic for patients with IBS	
Lactobacillus	51 (25.9)
Saccharomyces	4 (2.0)
Bifidobacterium	37 (18.8)
Multiple strains	105 (53.3)
Prescription of probiotics for patients with IBS and associated SIBO who are on antibiotics?	
Sequential usage of probiotic after antibiotic	95 (48.2)
Simultaneous usage of probiotic along with antibiotic	80 (40.6)
No usage of probiotic	22 (11.2)
Prescription of a probiotic that is resistant to rifaximin	
Yes	157 (79.7)
No	40 (20.3)

IBS: Irritable bowel syndrome; SIBO: small intestinal bacterial overgrowth
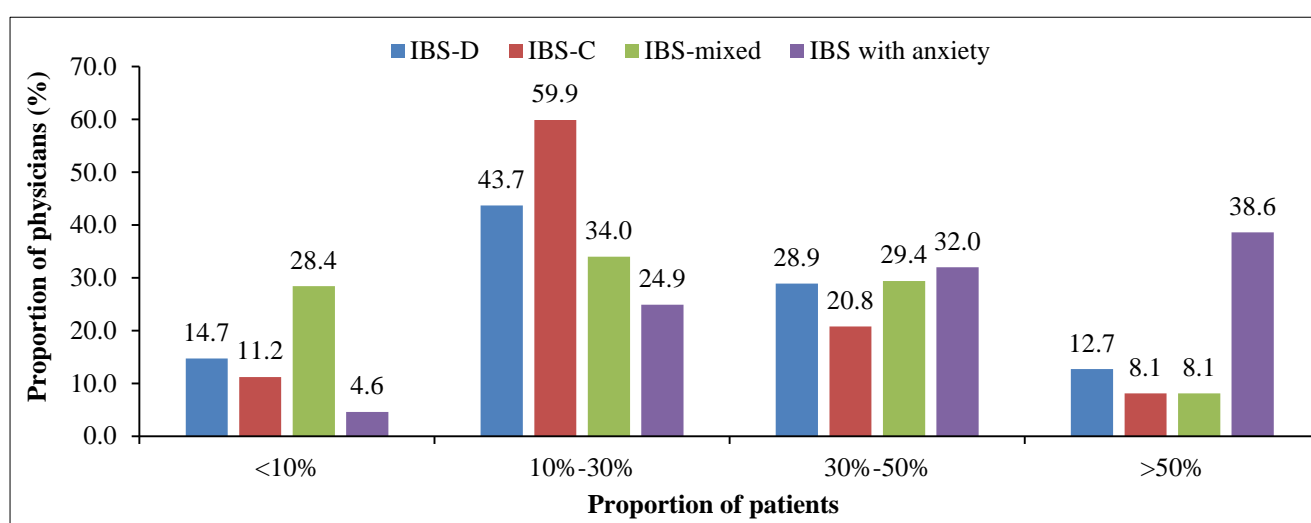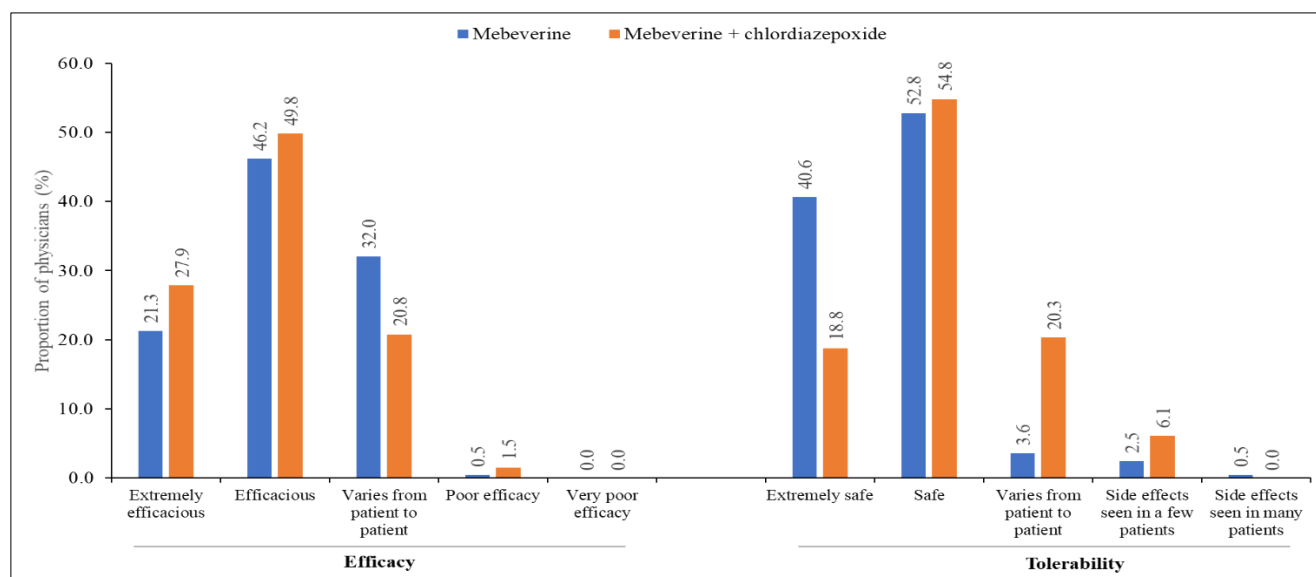

Figure 1: Prevalence of patients with IBS in Indian clinical practice by IBS subtype.
IBS: Irritable bowel syndrome; IBS-C: IBS with constipation; IBS-D: IBS with diarrhoea; SIBO: small intestinal bacterial overgrowth
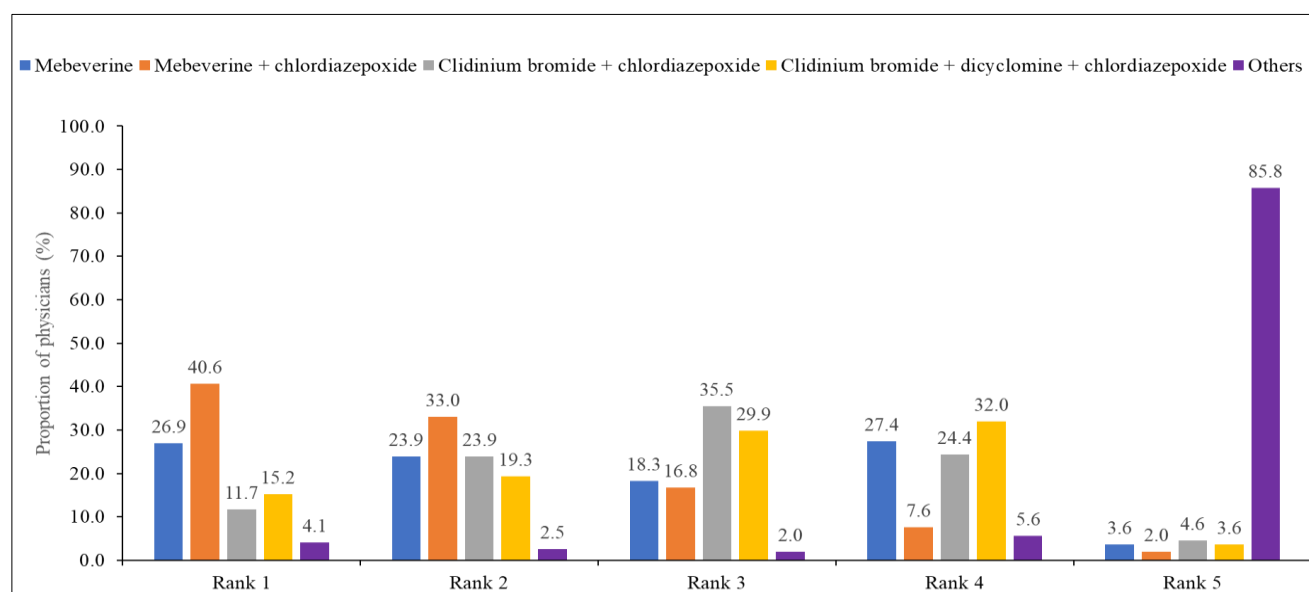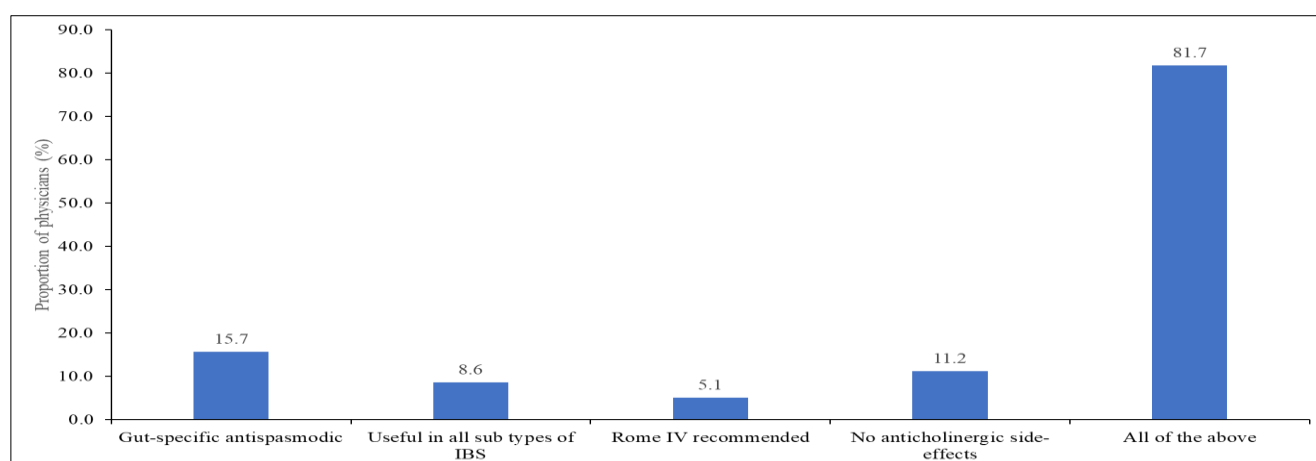

Figure 2: Physicians' ranking preferences for various pharmacotherapies in the management of IBS symptoms.
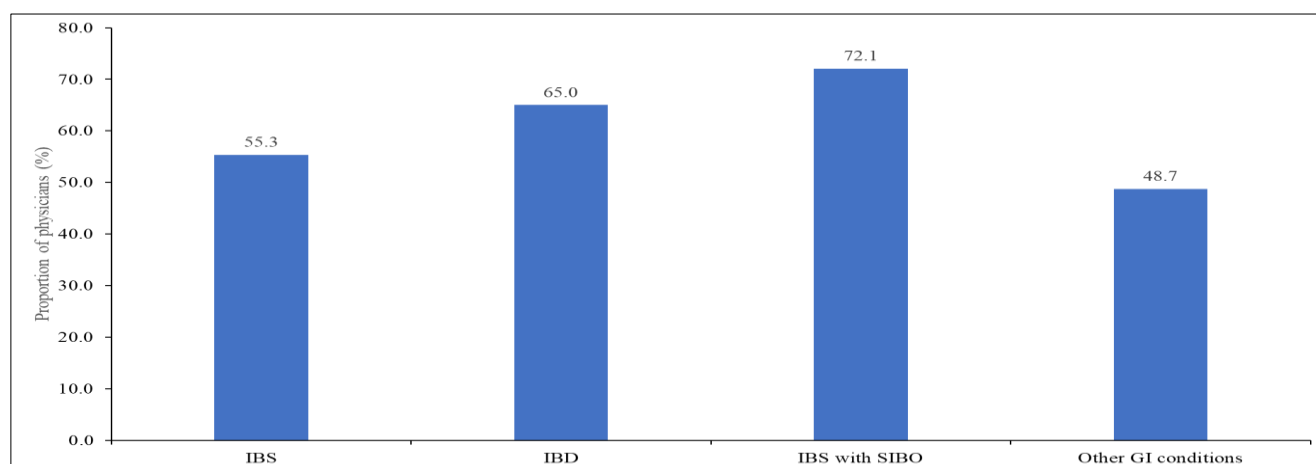IBS: Irritable bowel syndrome

Figure 3: Efficacy and tolerability of mebeverine and mebeverine chlordiazepoxide combination to reduce IBS symptoms.

IBS: Irritable bowel syndrome

Figure 4: Advantages of mebeverine in reducing IBS symptoms.

IBS: Irritable bowel syndrome

Figure 5: Preference for probiotics by gastrointestinal condition.

GI: Gastrointestinal; IBD: irritable bowel disease IBS: irritable bowel syndrome

DISCUSSION

The present survey demonstrates that most physicians take a detailed history of the IBS syndrome and association-driven criteria to diagnose IBS in their regular clinical practice. More than 50% of the patients had IBS mixed with anxiety as stated by 38.6% physicians, and almost half of the survey responders reported that patients typically suffer with IBS for 2-4 weeks before physician consultation. Most physicians (61.9%) stated that patients with IBS take home remedies before physician consultation. Moreover, more than half the physicians ranked mebeverine monotherapy or mebeverine plus chlordiazepoxide as the top two preferred therapies for IBS management. In particular, the most preferred choice was mebeverine plus chlordiazepoxide for IBS patients with anxiety. Most respondents (81.7%) were convinced of the benefits of mebeverine, majority of the physicians reported that mebeverine or its combination with chlordiazepoxide was efficacious and safe for IBS. Almost all physicians believed that diet and lifestyle counselling and psychological counselling support were useful in extending support to patients with IBS. Most physicians stated that they prescribed probiotics with multiple strains for 2-4 weeks in patients with IBS.

Many studies indicated that IBS is diagnosed based on symptoms, and establishing a definitive diagnosis can be difficult because typical features are not discriminative, and precise biomarkers in clinical practice are lacking.[21] According to the guidelines, IBS is not an excluding diagnosis, and physicians are encouraged to establish a positive diagnosis based on symptom criteria alone.[22] Because of the elevated pre-test risk of celiac disease, serological testing for celiac disease is considered beneficial in individuals with diarrhoea-predominant IBS.[23] The current study did not look into differences in diagnostic approaches based on the IBS subtype. Notably, our survey showed that most physicians reported collecting a detailed history of IBS syndrome and used association-driven criteria to diagnose IBS in their regular practice. Furthermore, most physicians used the Rome criteria in their daily clinical practice and frequently recommended additional tests before confirming an IBS diagnosis.

Physicians in this study opined that most patients with IBS suffered for 2-4 weeks before they consulted a physician and took home remedies before physician consultation. In addition to seeking a diagnosis, testing, and symptom relief, patients with IBS frequently have anxiety concerns about stigma, tend to self-medicate, and rarely express all of their concerns.[24-27] Notably, in the setting of limited consultation time, as mentioned by the physicians in this study, neither doctors nor patients discuss concerns if other, more serious matters relating to diagnosis and treatment remain. However, the lack of discussion does not imply that these factors are unimportant to patients; instead, it may contribute to patients' perceptions of the negative impact of IBS on their quality of life.

Many studies indicate that most patients with IBS in primary care do not require pharmacotherapy.[24,28] However, medications are necessary to address the three most common symptoms of IBS, namely diarrhoea, constipation, and stomach pain.[1,29] Anticholinergics, antispasmodics, calcium channel blockers, prokinetics, and laxatives have been used to modify gastrointestinal motility.[1,29] At the same time, psychotropics, antidepressants, and putative visceral analgesics have also been used.[30] Results of meta-analyses have indicated that antispasmodics like mebeverine are more effective than placebo in treating IBS.[31,32] Smooth muscle relaxants were more helpful than placebo in treating IBS, mainly when stomach discomfort is the primary complaint. Mebeverine hydrochloride is one of the direct-acting intestinal smooth muscle relaxants and may relieve abdominal pain or spasm in IBS. Although the efficacy of bulking drugs is controversial, they may be beneficial for persons with IBS who suffer from constipation or diarrhea as their chief complaint.[33] Consistent with the above findings, our survey results indicate that mebeverine plus chlordiazepoxide combination was the most preferred (40.6%) pharmacotherapy to reduce IBS symptoms, followed by mebeverine monotherapy (26.9%). Combination of mebeverine and chlordiazepoxide was the most preferred choice of physicians (39.6%) for >50% of IBS patients with anxiety. Thus, mebeverine or mebeverine and chlordiazepoxide combination for 4-8 weeks have been recommended to help with IBS symptoms.

Mebeverine hydrochloride is a musculotropic sodium channel antagonist that relieves spasms while maintaining gut motility by acting directly on the smooth muscles of the gastrointestinal system. Mebeverine hydrochloride is an antispasmodic and available in a range of dosages. IBS symptoms have been successfully treated with antispasmodics.[34] A recent observational study suggested that mebeverine hydrochloride treatment was confirmed effective in the treatment of IBS with improvements in all IBS-quality of life subscales and scores. The study findings indicated that the total IBS quality of life score exceeded the minimal important response (>10.2), which was a statistically significant increase from baseline at week 4. At week 8, the IBS quality of life total score increased by 24.3 points, much beyond the clinically significant response. Moreover, mebeverine hydrochloride treatment improved IBS and gastrointestinal symptoms within each subgroup (IBS-C, IBS-D, and IBS-mixed).[35] Consistent with the above findings, our findings indicate that most physicians found mebeverine or its combination with chlordiazepoxide to be efficacious and safe in the management of IBS symptoms. Almost 65% of physicians responded that mebeverine or its combination with chlordiazepoxide is useful in all subtypes of IBS, namely IBS C, IBS D, and IBS-mixed). Most physicians (81.7%) reported that mebeverine has all the listed benefits such as gut-specific antispasmodic action, usefulness in all IBS subtypes, Rome IV recommendation, and absence of anticholinergic side effects.

Studies indicate that a brief psychoeducational intervention in the form of patient counselling for IBS management, which includes diet, lifestyle, and psychological counselling, appears to change IBS cognition and fears effectively, improving disease-related quality of life.[36,37] Consistent with the above findings, our survey indicates that almost all physicians were considered extending patient support such as diet, lifestyle, and psychological counselling to be effective strategies in managing IBS.

Results from an open-label study indicated that supplementation of multistrain probiotics (*Bifidobacterium, Lactobacillus, and Enterococcus*) improved IBS symptoms via associated changes in gastrointestinal flora, and the gradually beneficial effect remained stable for two weeks.[38] Similarly, a double-blind, randomized controlled trial found that multistrain probiotics (one strain of *Lactobacillus* sp. and four strains of *Bifidobacterium* sp.) use improved IBS symptoms and metabolomic characteristics of treated subjects. After eight weeks of treatment, dissatisfaction with bowel habits and stool frequency also greatly improved. In particular, probiotics significantly altered the metabolites, and they could be used as biomarkers to predict probiotic action in patients with IBS-D.[39] In our study, it was observed that most physicians prescribed probiotics for IBS with SIBO, and for a duration of 2-4 weeks.

Our study has certain limitations, which include limited internal validity (generalizability) of the questionnaire. Furthermore, modes of data collection by questionnaire carries a risk of recall bias or contamination by the participants. However, several strengths of this study should be acknowledged, which include exploration from a national perspective and representation of reasonably large sample size of physicians from different zones providing care to patients with IBS.

CONCLUSION

In conclusion, IBS is a common gastrointestinal disorder that affects people of both genders. Although IBS has been shown to have a detrimental impact on patients' quality of life, many elements of IBS remain unsolved, including the best management option to reduce IBS symptoms. The present survey supports understanding the prevalence, diagnosis, and therapeutic management of IBS in India. In particular, the usefulness of mebeverine therapy in reducing IBS symptoms was also established.

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