
LAYPERSON'S KNOWLEDGE AND PERCEPTION IN IRRITABLE BOWEL SYNDROME, NORTHERN REGION OF SELANGOR, MALAYSIA

Nisha Kristen Dennis Franklin¹, Yee Bit-Lian^{2*}

¹International Medical University, Bukit Jalil campus, Malaysia.

²Open University Malaysia, Faculty of Technology and Health Sciences, Kuala Lumpur, Malaysia.

ABSTRACT

This study aims to assess the knowledge and perceptions of irritable bowel syndrome (IBS) among residents in Rawang, Malaysia, with a focus on identifying potential gaps in understanding. Effective management of IBS requires patients to have a comprehensive understanding of the condition. However, research indicates that individuals with IBS often lack information about various aspects, including frequency, natural history, complications, etiology, side effects, diagnostic procedures, care practices, and the impact of IBS on quality of life. The study employs a cross-sectional quantitative descriptive design, utilizing a survey questionnaire. The sample size of 384 respondents was determined through simple random sampling. Among the 384 participants, 52% were female, and 48% were male. Approximately 46% of participants expressed that IBS is not exclusive to women, while 24% could not accurately identify the gender more susceptible to IBS. Respondents demonstrated recognition of various health problems associated with IBS, yet misconceptions about its development were identified. Around

35.4% believed that a digestive disorder specialist (gastroenterologist) is the best professional to diagnose IBS, with objective tests like colonoscopy deemed necessary for diagnosis. While participants exhibited knowledge of IBS symptoms, numerous misconceptions regarding etiology, the role of healthcare professionals, appropriate diagnostic tests, and associated risks were identified. These misperceptions appear to be incongruent with established standards and practices. The study highlights the need for targeted educational efforts to bridge the knowledge gap among the public regarding IBS.

Keywords: Irritable Bowel Syndrome, Public, Knowledge, Perception, Symptoms.

Corresponding author: Yee Bit-Lian can be contacted at yeebl@oum.edu.my

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1. INTRODUCTION

Irritable Bowel Syndrome (IBS) is a prevalent gastrointestinal disorder characterized by unpredictable bowel habits and abdominal discomfort, commonly treated following Rome IV guidelines (Oka et al., 2020). Recent studies (Sherwin, 2018; Sperber et al., 2021), suggest that IBS is associated with heightened nerve sensitivity in the digestive tract wall, impacting nerve-brain interactions. IBS affects women more than men, constituting 15% of the American population, often manifesting before age 40, with some cases dating back to

childhood or early adulthood. Post-infectious IBS may develop after a significant upper respiratory infection (Sherwin, 2017).

Despite its prevalence, IBS significantly affects patients' quality of life, presenting chronic digestive discomfort. The global prevalence, estimated at 10-15%, varies, making IBS a widespread health concern (Weiser et al., 2018). The unclear pathogenesis involves factors like altered gastrointestinal motility, visceral hypersensitivity, psychological distress, genetic influences, and intestinal microbiome changes (Simren et al., 2017). Fairbrass (2020) notes that IBS is the most common functional gastrointestinal disease.

Patients often experience mild, moderate, or severe symptoms, with approximately 2.4 to 3.5 million consultations for IBS in the United States alone. Diagnosing IBS takes around two years or more, contributing to its underdiagnosis due to stigma and symptom avoidance (Austhof, 2020; Houte et al., 2019). Positive outcomes hinge on patient understanding of the treatment process, yet IBS patients often lack sufficient information about various aspects of the condition, affecting their quality of life (Sherwin, 2017). Public perceptions of IBS play a crucial role in patients' decision-making, influencing their treatment-seeking behavior. Media platforms and internet forums can enhance patient knowledge and support, fostering self-management and engagement. Digital technologies offer patients a means to connect, share experiences, and access emotional and informational support. The study aims to explore the knowledge and perceptions of IBS among residents in, Rawang, state of Selangor in Malaysia, shedding light on potential gaps in health education and training.

2. REVIEW OF LITERATURE

Lovell and Ford (2017) conducted a systematic review and meta-analysis, revealing a global prevalence of irritable bowel syndrome (IBS) at 11%. However, this varied significantly based on geographical location, diagnostic criteria, duration of symptoms, ethnicity, and gender. Studies exploring the impact of socio-economic conditions on prevalence are limited, indicating a need for further investigation. Sherwin (2017) acknowledged challenges in determining the global prevalence but recognized IBS as a prevalent health issue, with studies predominantly originating in Europe, Southeast Asia, and North America. The highest prevalence was reported in South America at 21%, and recent research identified a rising prevalence in newly developed Asian nations. Houte et al. (2019) reported varying prevalence between 3% and 22% across different nations, attributing the differences to diverse clinical definitions.

Recent studies reported prevalence rates for IBS ranging from 3.8% to 9.2%, depending on clinical guidelines. Regional variations also exist, with prevalence rates between 1.1% and 45%, highlighting the substantial burden IBS places on healthcare and communities. Regional studies, such as one conducted in Malaysia by Govindarajah et al. (2018), indicated an increasing prevalence among healthcare students globally, including Pakistan, Jeddah, China, Japan, Korea, and Canada. The prevalence of IBS in young Malaysian medical students was reported as 15.8% two decades ago using Rome I guidelines.

Klem et al. (2017) emphasized that IBS affects 7–18% of the global population, with infectious enteritis identified as a risk

factor, leading to post-infectious IBS (PI-IBS). PI-IBS risk, ranging from 4% to 36%, persists for over 10 years after the infectious episode. Alzahrani et al. (2018) outlined various risk factors, including gender, genetic history, psychiatric stress, anxiety, mental health problems, dietary habits, and sleep disturbances. Algabr et al. (2018) highlighted poor public knowledge of IBS risk factors, often relying on social media for symptom information, leading to delayed diagnoses and exacerbated conditions.

Lieberson (2019) found that 75% of patients lacked sufficient information during hospital visits about their IBS condition, with physicians providing inadequate explanations. Patients often turned to social media, leading to misinformation and heightened concerns about serious illnesses. Algabr et al. (2018) reported that 82% of the public had poor knowledge of IBS, with incorrect perceptions about its seriousness and impact on quality of life. Levine et al. (2020) acknowledged the complexity of IBS pathophysiology and limited time for patient education during clinic encounters, contributing to patients seeking information on the internet. Overall, public awareness and accurate information dissemination are critical to addressing IBS prevalence, risk factors, and knowledge gaps.

2.1 Theoretical framework

The theoretical foundation underpinning this study is Hochbaum's (1958) Health Belief Model (HBM), designed to elucidate the factors influencing individuals' health-related actions. The HBM focuses on the interplay between beliefs and behavior, offering insights into patients' health-related decisions and compliance with healthcare measures. Key

components include perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy.

Perceived susceptibility involves an individual's assessment of personal risk, while perceived severity extends beyond medical consequences to consider impacts on work, family, and social life. The decision to engage in health-related behavior is influenced by perceived benefits and barriers. Individuals are likely to adopt health actions if they believe in their susceptibility, perceive the illness as severe, and consider the benefits of action outweighing the costs. In cases of diagnosed illnesses, the model includes acceptance of diagnosis and personal susceptibility estimates. Threat perceptions arise from beliefs about susceptibility and severity, influencing health-related decisions. The HBM posits that individuals evaluate health behaviors based on perceived benefits and efficacy, weighed against perceived costs or barriers, such as pain, inconvenience, or expense.

The HBM aligns with the research objective of raising awareness and promoting well-being. This study applies Hochbaum's model to comprehend the impact of irritable bowel syndrome (IBS) in Rawang, Malaysia. The framework guides the exploration of individuals' willingness and self-initiated changes toward a healthier lifestyle to prevent IBS. It provides a theoretical foundation for understanding how individuals' beliefs shape their health-related decisions, offering valuable insights for promoting health awareness and preventive measures.

3. RESEARCH METHODOLOGY

3.1 Design, Sampling and sample size

A descriptive study design was used in this cross-sectional survey among public in Rawang, Malaysia. This survey is mainly to assess the knowledge and perception level towards irritable bowel syndrome among public. The study's target population, unquantifiable due to the absence of statistics for Rawang, prompted the use of a token system. Using computer-generated randomization, 500 participants received questionnaires.

3.2 Research Instrument

The survey utilized in this study was adapted from Sherwin (2018) with permission. It comprises three sections: an introductory segment explaining the research topic, Section A gathering socio-demographic data, and Sections B and C assessing knowledge and perceptions of irritable bowel syndrome with multiple-choice questions. The questionnaire was bilingual (English and Malay).

3.3 Pilot Study, Reliability and Validity

The pilot study, involving 30 participants, assessed the knowledge and perceptions of irritable bowel syndrome to establish the instrument's validity. Three expert panels (Consultant Gastroenterologist & Physician, Director of Nursing and Assistant Director of Nursing) evaluated the research instruments for content validity. The panel experts were from a selected private medical center where the researcher currently employed.

3.4 Ethical Consideration

Ensure ethical compliance by securing approval from IMU Joint Committee on Research and Ethics (ID BN I/2020(PR-51)). Participants, meeting inclusion criteria, received information about the study's purpose and were guaranteed confidentiality through a consent form distributed alongside the questionnaire via Google Docs before the study commenced.

4. RESULTS

4.1 Demographic Data

Online surveys were conducted based on inclusion criteria, with a total of 500 questionnaires distributed. The number of respondents who opted to participate and completed the questionnaires online was 384, which was 76.8% of the returned rated (Table 1). Among the 384 participants, 52% were females, and 48% were males. The majority fell within the 41 to 50 age group (41%), followed by the 31 to 40 age group (28%). Participants were categorized into Indian, Chinese, and Malay ethnic groups, with 40% Chinese, 32% Indian, and 28% Malay representation. Most of them (60%) completed secondary school education.

Table 1. Demographics of the participants (n=384)

Variables	N (%)
Gender	
Male	184 (48)
Female	200 (52)
Age	
< 30 years old	62 (16)
31 to 40 years old	106 (28)

41 to 50 years old	158 (41)
>51 years old	58 (15)
Race	
Indian	123 (32)
Chinese	153 (40)
Malay	108 (28)
Highest Education	
Primary	38 (10)
Secondary	229 (60)
Tertiary	117 (30)

4.2 Prevalence and Epidemiology

The survey delved into the prevalence of irritable bowel syndrome (IBS) concerning hypertension frequency, with 2% indicating IBS is more common than hypertension and another 2% believing it's more prevalent than colon cancer. A significant portion (46%) asserted IBS doesn't exclusively affect women, while 24% couldn't specify the gender more susceptible to IBS.

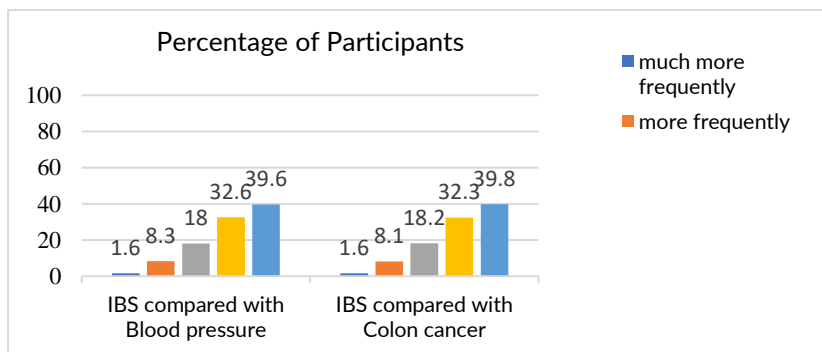


Figure 1. Prevalence and Epidemiology (N=384)

4.3 Natural History

Approximately 36.7% expressed uncertainty regarding whether IBS shortens life, while 26.8% believed it does. Regarding symptom persistence, 35.4% thought IBS symptoms never subside, while 39.8% were unsure of their permanence post-diagnosis.

4.4 Risks associated with IBS

Regarding the impact of IBS on other gastrointestinal disorders, 19.8% believed it heightened the risk of conditions like ulcerative colitis or Crohn’s disease. In relation to colon cancer, 18.8% asserted that IBS increased the risk. Additionally, 28.1% thought individuals with food intolerances or allergies were more susceptible to IBS, while 27.1% believed those with food allergies faced an increased risk of developing irritable bowel syndrome (Table 2).

Table 2. Risks associated with IBS (n=384)

IBS changes risk of developing IBD?		
	Frequency	Percent
Yes, it increases the risk	76	19.8
Yes, it decreases the risk	93	24.2
No, there is no change in risk	111	28.9
Not sure	82	21.4
I have never heard of these conditions	22	5.7
Total	384	100.0
IBS changes risk of developing colon cancer?		
	Frequency	Percent
Yes, it increases the risk	72	18.8
Yes, it decreases the risk	84	21.9

	No, there is no change in risk	138	35.9
	Not sure	81	21.1
	I have never heard of these conditions	9	2.3
	Total	384	100.0
IBS develop symptoms because they are?			
		Frequency	Percent
	Allergic to different foods	104	27.1
	Intolerant to different foods	108	28.1
	No relationship between IBS symptoms and foods	79	20.6
	Not sure	93	24.2
	Total	384	100.0

4.5 Aetiology

Most common factors which the respondents strongly agree with which will cause irritable bowel syndrome were genetic (16%), upbringing (15%), diet/eating habits (12%), changes in daily routine (11%), aging (10%), environmental (9%), depression (8%), poor medical care (7%), anxiety and behaviour (6%).

4.6 Symptoms

Inquiring about the causes of IBS symptom development, participants were asked whether it was linked to "sensing things differently in the digestive system" or a "motility disorder in the digestive system." About 41.1% remained uncertain about the causes. When questioned about reasons for IBS symptom development, the majority were unsure (39.3%), while others provided incorrect answers (36.5%). Common symptoms

experienced by those with IBS included bloating (30%), constipation (23%), abdominal pain (21%), diarrhea (14%), and flatulence (12%).

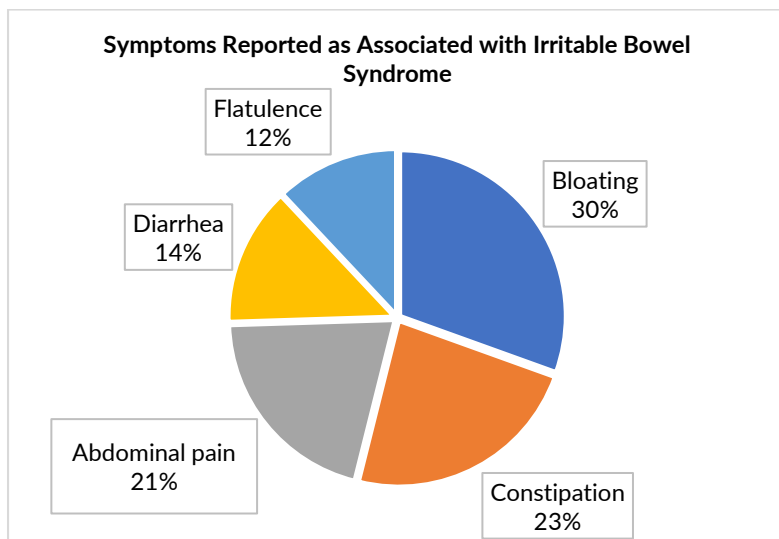


Figure 2. Symptoms reported as associated with irritable bowel syndrome (n=384)

4.7 Mode of diagnosis

Regarding the mode of diagnosis, 35.4% considered a digestive disorder specialist (gastroenterologist) as the most suitable professional for diagnosing irritable bowel syndrome (IBS). Additionally, 28.6% believed that an allergy specialist and 23.4% a general physician could diagnose IBS. When asked about their feelings if they or a significant other received an IBS diagnosis without testing, 38.3% expressed worry, and 27.3% felt uncertain. When participants were questioned about the

tests used for diagnosing IBS (Table 3), thirty-one percent were uncertain about the role of objective tests like blood tests, abdominal ultrasound, CT scan, and MRI. Additionally, 33% of participants were knowledgeable about the required tests for IBS diagnosis.

Table 3. Mode of Diagnosis Perceived as Necessary for Diagnosing Irritable Bowel Syndrome (n=384)

Test	True (%)	False (%)	Not Sure (%)
Only a blood test	26.8	36.7	36.5
Colonoscopy	26.3	35.4	38.3
Abdominal ultrasound	39.6	41.4	19.0
CT Scan	40.1	41.7	18.2
MRI	31.3	32.0	36.7
Physical exam	30.2	33.3	36.5
No testing necessary, can be diagnosed by symptoms only	29.9	31.5	38.5

*CT, computed tomography; MRI, magnetic resonance imaging.

4.8 Treatment

A majority of participants (55.2 %) believe that changing their diet can cure irritable bowel syndrome. Additionally, 36.5% claim that purchasing over-the-counter medications can be a cure, while 39.8% assert that prescribed medications cannot cure IBS. Moreover, 36.5% are unsure whether IBS can be cured by alternative therapies like acupuncture, herbs, and roots. The majority (46.4%) believes that surgery is a cure, and 46.6 percent assert that IBS can be cured without any treatment.

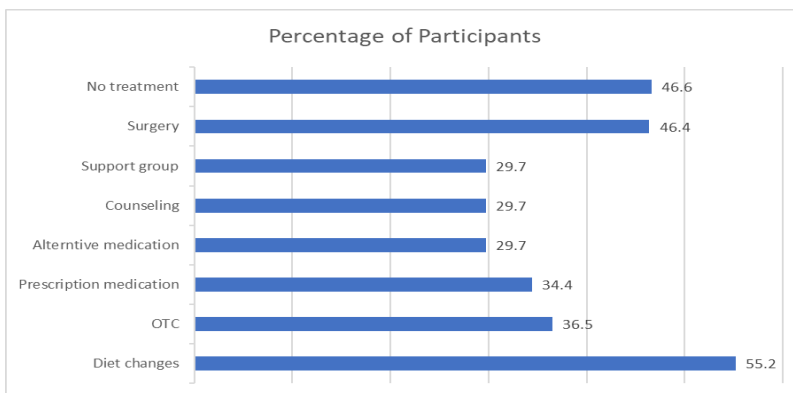


Figure 3. Treatment Thought to Relieve Symptoms of Irritable Bowel Syndrome (n=384)

4.9 Impact of IBS

Lastly, participants were asked if irritable bowel syndrome has been affected personally in someone's life and majority of the participants answered unsure (38.5%) and many said no (32.3%). Regarding the participants' relationship with individuals diagnosed with IBS, the majority (32 percent) indicated they were not close at all. When asked about the potential impact of an IBS diagnosis on various aspects of life, responses included 21.6 percent indicating an impact on home life, 20.3 percent on social activities, 18.8 percent on work life, and 13.3 percent on daily activities like shopping and chores.

5. DISCUSSION

Irritable bowel syndrome (IBS) is a prevalent chronic digestive disorder that significantly impacts patients' quality of life, leading to frequent healthcare visits, increased medical costs, and provider dissatisfaction. Public perceptions, often shaped

by social media, contribute to these challenges. Social networks play a crucial role in health decision-making (Siminoff, 2018), making it essential to examine the public's understanding and perception of IBS. This study revealed widespread misconceptions about the natural history, complications, risks, impact, diagnosis, and healthcare importance related to IBS.

In line with the Health Belief Model, individuals tend to trust social media for health information over healthcare visits (Hochbaum, 1958). The research also highlighted a moderate understanding of IBS etiology among the public. While no clear causative factors exist, some identified factors include diet, genetics, and stress. However, the study demonstrated diverse beliefs, including associations with aging, inadequate hospital attention in the past, childhood experiences, environmental exposures, lifestyle changes, and substance use. Despite hypotheses linking these factors to IBS, it's crucial to note that aging showed fewer side effects and reduced prevalence in those over 50 years old (Lovell & Ford, 2017; Shorey et al., 2021).

Public respondents exhibited concerns about IBS leading to severe illnesses, such as inflammatory bowel disease or colon cancer. Some even believed IBS could shorten an individual's lifespan. These perceptions align with patient experiences (Lacy et al., 2017; Levine et al., 2020), emphasizing the need for accurate information dissemination to alleviate unwarranted anxiety (Hu et al., 2021). The study also found public support for food allergies and gluten intolerance as potential risk factors for IBS, reflecting the importance of dietary modifications in managing symptoms.

Clinical assessments for IBS were commonly misunderstood by the public, with many participants advocating for colonoscopies and fewer suggesting ultrasounds. These misconceptions, often propagated through social media, may influence healthcare-seeking behaviors. Clear communication and education on proper diagnostic procedures are crucial to fostering patients' trust in IBS assessments. The study revealed that IBS significantly impacts various aspects of life, mirroring the experiences of diagnosed individuals. While fewer respondents knew someone with IBS, a substantial majority acknowledged the disorder's effects on social, work, personal, and family relationships. Further research is needed to explore functional disability and social media's influence on individuals with IBS. Providing accurate health education can empower the public, promote a healthier lifestyle, reduce stress, and minimize unnecessary healthcare visits driven by misconceptions fostered by social networks.

6. CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

Widespread misconceptions about IBS in the public domain may significantly impact decision-making for those grappling with the condition. Patients' experiences shared on social media platforms could enhance objective research but may also pose challenges in treatment. Raising awareness about the natural course of IBS and the importance of diagnostic testing among both IBS sufferers and their social media networks is crucial for improving self-management and outcomes.

This study's significance lies in pinpointing gaps in public knowledge and perception of irritable bowel syndrome (IBS).

Findings are crucial for nurses aiming to address social media-driven misconceptions, allowing health professionals to deliver targeted and effective education on IBS. The study underscores the necessity of public education initiatives to enhance awareness and understanding of IBS, fostering trust in healthcare providers and promoting positive reputations for nurses and healthcare workers.

The study acknowledges two limitations: a single-center focus with a small sample size of the public chosen for this study. Consequently, quantitative data methodology may not offer a thorough comprehension of knowledge and perceptions towards IBS, unlike qualitative data methodology. Thus, the findings cannot be generalized to populations in other public area, either within or outside Malaysia.

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