PROJECT REPORT

A Survey on

"Knowledge of Irritable Bowel Syndrome (IBS) among the Pharmacy students of a private university in Bangladesh"

Submitted to:

Department of Pharmacy
Faculty of Allied Health Science
Daffodil International University

Submitted by:

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Date of Submission: November 21, 2022

APPROVAL

This project, "knowledge of Irritable Bowel Syndrome (IBS) among the pharmacy students of a private university in Bangladesh",submitted to the Department of Pharmacy, Faculty of Allied Health Sciences, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy and has been approved as its style and content.

BOARD OF EXAMINERS

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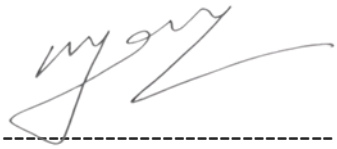
---------- **Internal Examiner -2**

---------- **External Examiner**

Certificate

This is to certify that the results of the investigation that are embodied in this project are original and have not been submitted before in substance for any degree of University. The entire present work submitted as project work for the partial fulfillment of the degree of Bachelor of Pharmacy is based on the result of the author's (ID:183-29-135) own investigation.

Supervised by



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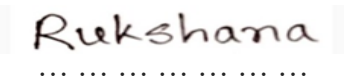
DECLARATION

I hereby declare that this project report is done by me under the supervision of MD. MIZANUR RAHMAN, Assistance Professor, Department of Pharmacy, Faculty of Allied Health Sciences, Daffodil International University, impartial fulfillment of the requirement for the degree of Bachelor of Pharmacy. I am declaring that this project is my original work. I am also declaring that neither this project nor any part thereof has been submitted elsewhere for the award of a Bachelor's or any degree.

Submitted by



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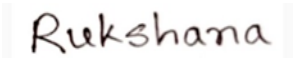
I would like to express my respect to all the teachers at the Department of Pharmacy, Daffodil International University, and thank the other members for their excellent cooperation with us.

Finally, I would like to thank my parents and other family members for their kind cooperation and encouragement that helped me finish this project.



Author

DEDICATED TO

My parents and my supervisor

CONTENT

ABSTRACT

BACKGROUND: Irritable bowel syndrome (IBS) is a common disease that affects the stomach and intestines, generally known as the gastrointestinal system. Symptoms include cramping, stomach discomfort, bloating, gas, diarrhea, constipation, and sometimes both. IBS is a persistent ailment that needs to be addressed on even a long-term basis. Only a tiny portion of IBS sufferers experience severe symptoms. Some individuals can manage their symptoms by controlling their food, way of life, and stress. Medication and psychotherapy might be used to address more severe symptoms. IBS does not cause gut tissue changes or raise your chance of developing colorectal cancer.

OBJECTIVE: The main purpose of this survey was to know the knowledge of IBS among the pharmacy students of a private university in Bangladesh.

METHOD: This offline survey will be done among the Pharmacy students of a Private University in Bangladesh from September to October. Self-administered questionnaires will be distributed in paper and pen formats. This study's data were gathered using traditional sampling procedures. The sample size in this study was 100, and feedback was halted when the aim of 100 was reached.

RESULT: About 100 students participated in this study and 78% of participants are known about IBS and 22% claimed that they don't know about IBS. There were 75% male participants and 25% female participants. Approximately 80% of IBS participants were aware of the signs and symptoms. 65.2% stated that the real diet necessary for IBS patients is 65.2%. For example, 78.4% learned about treatment from medical experts, and 80% learned about stress management. They learned about it via instructors, various social media platforms, newspapers, television, and other sources. 4th-year students' knowledge about IBS was more than the 1st year.

CONCLUSION: Programs on IBS awareness are needed to spread the message, reduce functional impairment, and improve quality of life.

CHAPTER 1

INTRODUCTION

1. Introduction

IBS is a functional condition that affects the bowels. The digestive system doesn't always work as it should, despite the fact that it appears to be normal. Food is moved from the stomach to the rectum by intestinal muscles. Normally, they gently contract and relax in a rhythmic pattern that advances the meal on a somewhat regular timetable. However, the gut muscles can spasm in certain persons. The contractions are therefore more pronounced and prolonged than usual. They hurt when they spasm. They also obstruct how food passes through the intestines. You have constipation if they slow it down. You get diarrhea if it's sped up. People with IBS frequently switch back and forth between the two. IBS sufferers' overly sensitive nerves are another source of discomfort.

Irritable bowel syndrome (IBS) is a prevalent functional gastrointestinal illness (FGID) with an effect on both the individual and society. Individually, individuals report recurring stomach pain and discomfort, changes in bowel habits, and a variety of other symptoms such as bloating, distension, gas, borborygmi or problems in defecatory function [1]. These symptoms range from moderate to severe or while the prognosis for IBS is favorable, the overall result can cause significant disruptions in an individual's well-being and virtue of life. Furthermore, for numerous, this is a chronic condition with unpredictable activity bursts and remission intervals [2]. At the macroeconomic level, considering an estimated incidence of 10-15% in industrialized nations and its established link with job absenteeism and presenteeism, IBS surely has a substantial economic impact [3]. The impact is no less disturbing in the clinical setting, as it is the most commonly seen condition by gastroenterologists. Despite the frequency with which the disorder is encountered and the significant resources dedicated to its treatment, it remains poorly understood & the diagnosis of IBS is frequently based solely on symptom-based criteria for example the 'Rome Criteria' after the exclusion of organic diseases of the gastrointestinal tract (GIT) [4] the latter being an expensive process in and of itself. Historically, pathophysiological insights into the disease’s cardinal symptoms have focused on the importance of visceral hypersensitivity in the development of pain and discomfort as well as the role of gut dysmotility in the development of the underlying disruption in bowel habits [5]. These independent ideas have been merged into a more sophisticated picture of IBS causation by the ever more comprehensive idea of an improperly functioning brain-gut axis [6]. This principle was founded on the idea that bidirectional transmission between the GI tract and the brain (controlled at neurological, hormonal as well as immunological levels) is essential for maintaining homeostasis; disruption of these systems results in illness states [7]. Despite these advancements, there is currently no valid biological marker for IBS, and there are not enough treatment options. [8-9]. The scarcity of viable pharmacological therapies has turned the scientific community's focus away from the mainly unsuccessful method of medication discovery based on visceral hypersensitivity and gut dysmotility as well as toward other aspects of the brain-gut axis architecture [8].

This is a particularly important aim in light of the removal of promising IBS treatments such as alosetron, cilansetron, and tegaserod [10] owing to side effects. Thus, in addition to visceral hypersensitivity and dysmotility, altered central nervous system perception of visceral events, psychopathology, as well as infection and inflammation, are now widely recognized as major pathophysiological variables [11]. Because of the worth of the microbiota in the brain-gut axis complex, the bacterial flora has been introduced as a therapeutic target, with antibiotics [12] as well as probiotics [13-14] being the basic ways of intervention. Recent psychological investigations on IBS have revealed a link between psychological problems, including sadness, anxiety, and somatization. According to certain research, up to 60% of IBS patients suffer significant psychological issues [15]. Although the origin of IBS is unknown, there is evidence that the disruption of brain-gut connections plays a role in illness manifestation [16-17]. According to this bio-psychological example of IBS, abdominal symptoms influence anxiety & depression secondarily (bottom-up model), as well as psychological factors, influence physiological factors for example motor functions, sensory threshold, stress reactivity of the gut via vagal & sympathetic afferents (top-down model) [18]. There is significant evidence that early-life stresses for example sexual abuse and parental separation have a role in IBS [19-21]. Investigating the psychosocial components of IBS is thus critical to understanding the condition and identifying appropriate therapies. Numerous studies have been conducted over the last decade to explore the psychological problems of IBS patients by comparing their levels of anxiety as well as sadness to those of healthy controls, but the results have been mixed. Few research has shown a link between IBS and increased levels of anxiety [22-27], whereas others have not [28]. Furthermore, inconsistent findings have been recorded for IBS-subtypes (IBS-C "constipation," IBS-D "diarrhea," as well as IBS-M "mixed," i.e. along with alternate diarrhea and constipation cases). Some research revealed that the IBS-C subtype was related to increased anxiety-depressive symptoms [29], however, others reported no differences across IBS subtypes [30-32].

1.1. Causes of IBS

The specific etiology of IBS is unknown. Muscle contractions in the gut appear to have a function. The intestines are implicated with layers of muscle it flexes to propel food via your digestive tract.

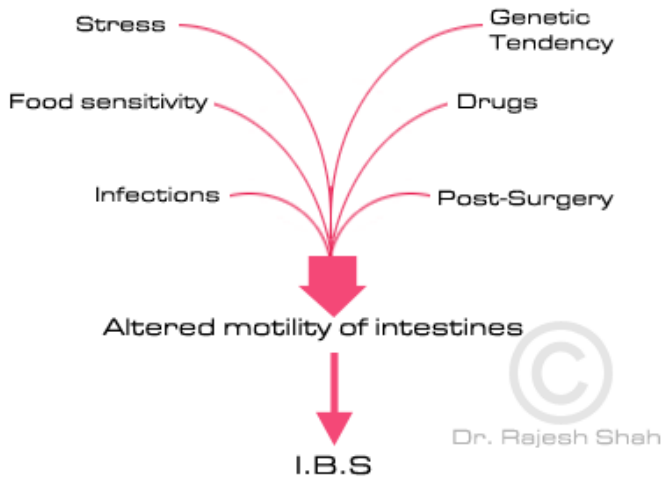


Fig 01: ***Causes of IBS***

1.2. Symptoms of IBS

- Constipation, which can be eased by bowel movement; abdominal (stomach) discomfort, and cramps.
- A modification in bowel habits, such as diarrhea, constipation, or occasionally both.
- Stomach bloating and edema.
- Abnormal breath (flatulence).
- Every now and again urgent bowel needs.

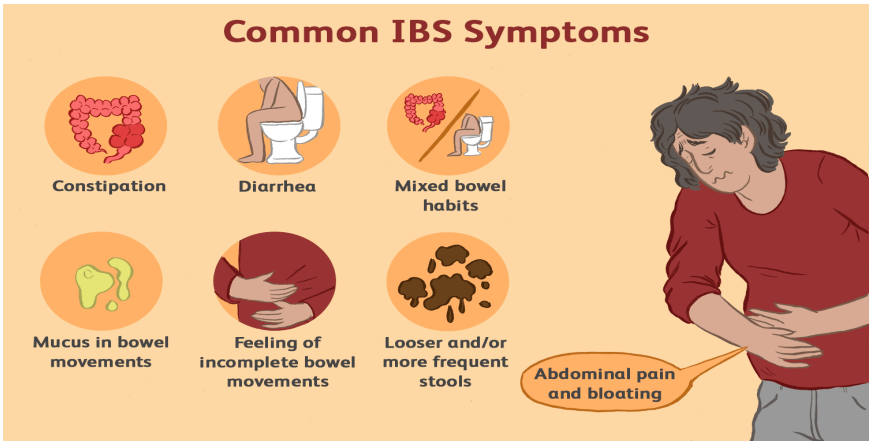


Fig 02: ***Symptoms of IBS***

1.3. Diagnosis of IBS in humans

For IBS, there isn't a simple test. A thorough medical history, physical examination as well as testing to rule out other disorders including celiac or inflammatory bowel syndrome will probably be the first steps taken by your doctor (IBD). Your doctor will most likely utilize one of the following lists of diagnostic criteria for IBS after ruling out all other conditions:

- **Rome criteria:** These prerequisites include experiencing stomach pain or discomfort for at least 1st day a week during the previous 3 months. Additionally, this must occur with at least 2 of the following: Defecation-related discomfort & pain, as well as a change in the frequency or consistency of feces.

- **Type of IBS:** Based on your symptoms, IBS can be classified as constipation-predominant and diarrhea-predominant as well as mixed, or unclassified.

Furthermore, your doctor will probably identify whether you have any additional symptoms that might indicate an exceeding serious condition. These consist of:

- After age 50, the onset of symptoms; Weight loss, Rectal hemorrhage.

- Fever and nausea, or repeated vomiting; stomach pain, especially if it doesn't correspond to a bowel movement or happens at night; persistent diarrhea, waking up from sleep due to diarrhea and low iron-related anemia.

You may probably require more testing if you experience these symptoms or if an initial IBS therapy doesn't work.

Additional tests

Your doctor could suggest other tests, such as stool testing, to check for infections. Stool testing may also show whether your gut is having trouble absorbing nutrients. The medical word for this issue is malabsorption.

Additional testing may be advised to rule out other potential reasons of your symptoms.

Diagnostic procedures can include:

- **Colonoscopy:** Your doctor will utilize a thin and flexible tube to examine the whole colon.
- **CT scan:** This test produces images of your abdomen and pelvis which may help rule out other possible causes of your symptoms especially if you have stomach pain.
- **Upper endoscopy:** The long, flexible tube is sent down your throat and into your esophagus which is the tube that links your mouth & stomach. A camera at the end of the tube allows your doctor to observe your upper digestive tract. During an endoscopy, a tissue sample (biopsy) may be collected and fluid sample can be taken to check for bacterial overgrowth, an endoscopy may be recommended if celiac disease is suspected.

Laboratory tests can include:

- **Lactose intolerance tests:** Lactase is an enzyme it is essential for the digestion of sugar found in dairy products. Lactase deficiency can cause symptoms comparable to IBS for example stomach pain, gas, as well as diarrhea. Your doctor may order a breath test or advise thou to avoid milk and milk products for many weeks.
- **Breath test for bacterial overgrowth:** You may find out whether thou have bacterial overgrowth in your small intestine by doing a breath test. Patients with intestinal surgery, diabetes, or any condition that inhibits digestion are more prone to experience bacterial overgrowth.
- **Stool tests:** It is possible to test for bacteria, parasites, and bile acid in your feces. A digestive fluid produced by the liver is called bile acid.

1.4. First-line treatment for IBS

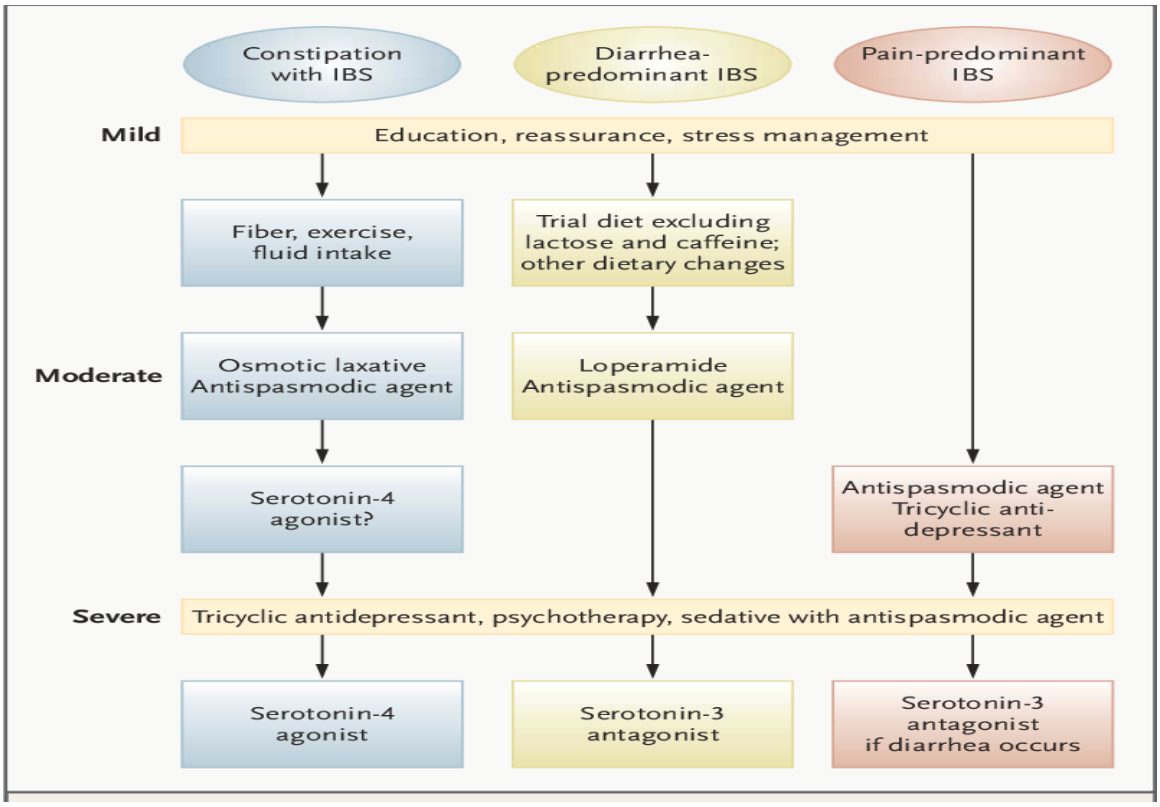


Fig 03: ***First-line treatment for IBS***

1.4.1. Mechanism of medication needed for IBS treatment:

❖ Constipation with IBS.

Treatment for mild symptoms

Mild symptoms can often be controlled by managing stress as ll as via making changes in your diet and lifestyle.

Try to:

- Steer clear of foods that aggravate your symptoms.
- Consume meals high in fiber.
- Be sure to hydrate yourself.
- Regular physical activity.
- Receive adequate rest.

➢ Fiber

It makes the stool softer and simpler to pass through while increasing its ability to contain water. So, purely mechanically, insoluble fiber may be more likely to worsen IBS symptoms, whereas soluble fiber may offer some relief, especially in IBS-C

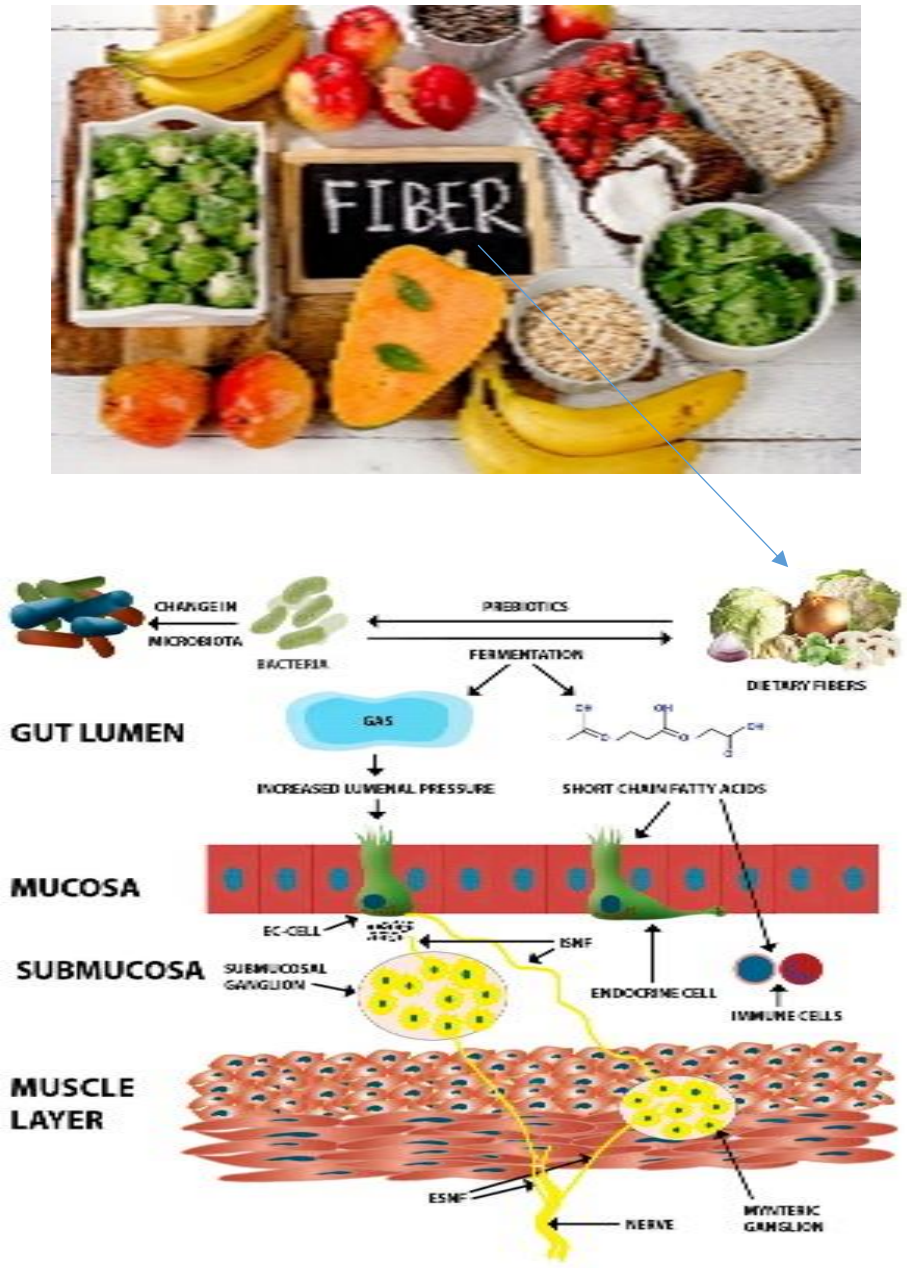


Fig 04: ***Dietary fiber work in Irritable bowel syndrome (IBS)***

The most plausible ways that dietary fiber affects how the gastrointestinal system functions. Dietary fiber acts as a prebiotic to the gut microbiota, changing their composition as well as promoting the growth of beneficial bacteria. Dietary fiber is then stimulated to ferment by the gut bacteria or produce gas, short-chain fatty acids, and other byproducts. Gas production raises fecal bulk as well as luminal pressure. These techniques, together with lowering the luminal pH and boost the serotonin synthesis of EC-cells. Visceral sensitivity depends on serotonin. Short-chain fatty acids affect intestinal endocrine cells or enteric nervous system neurons, which in turn affect gastrointestinal motility & secretion. Additionally, short-chain fatty acids have an impact on immune system cells and lower inflammation.

➢ Exercise

If you're already fit, choose aerobic activities like running, jogging, swimming, or swing dancing. All of these exercises can help with intestinal health. Yoga and stretching may also help with constipation.

This requires engaging in routine physical activity. Through stress reduction, bowel function improvement, and bloating reduction, exercise is suggested to aid with IBS symptoms.

- Jogging.
- Gently cycling
- Low-impact aerobic exercise.
- Bodyweight workouts
- Organized Sports
- Leisurely Swimming long with walking, you might try the following IBS exercises.

Fig 05: ***Exercise in Irritable bowel syndrome (IBS)***

Treatment for moderate symptoms

IBS-C symptoms include stomach pain and discomfort, as well as abnormalities in bowel function. Bloating or gas may also occur. Changes in bowel function might include straining and infrequent stools, hard or lumpy feces, or the sensation that the gut does not entirely empty. Medications may be recommended, including:

➢ Osmotic laxative

Osmotic laxatives are poorly absorbed in the gastrointestinal tract. They function as hyperosmolar agents, increasing the water content of the stool and so making it softer and easier to pass, and stimulating colonic peristalsis. Stimulant laxatives stimulate the intestinal mucosa, causing an increase in water & electrolyte output.

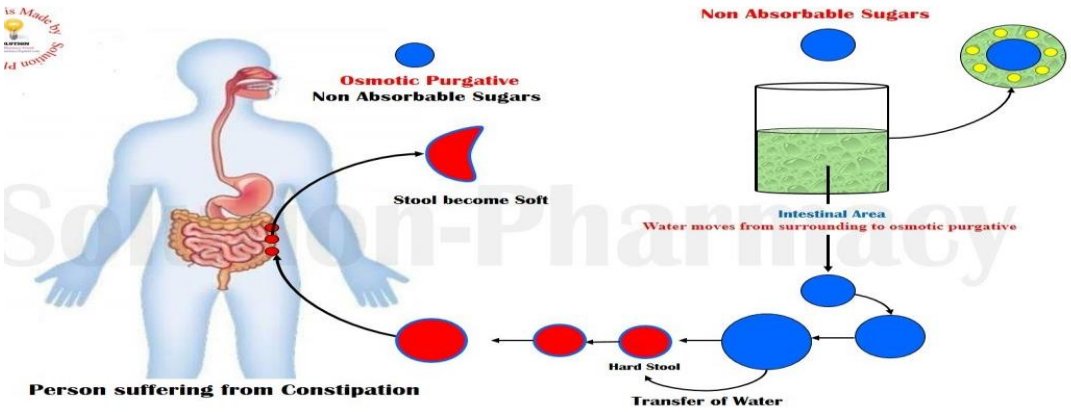


Fig 06: ***Mechanism of Osmotic Purgative***

Antispasmodic agent

These drugs, once taken, bind to muscarinic receptors on gastrointestinal smooth muscles. As a result, they prevent acetylcholine from binding to these receptors and resulting in decreased smooth muscle contraction and spasm relief.

The mechanism of action is that calcium influx into arterial smooth-muscle cells is inhibited, resulting in smooth-muscle cell relaxation.

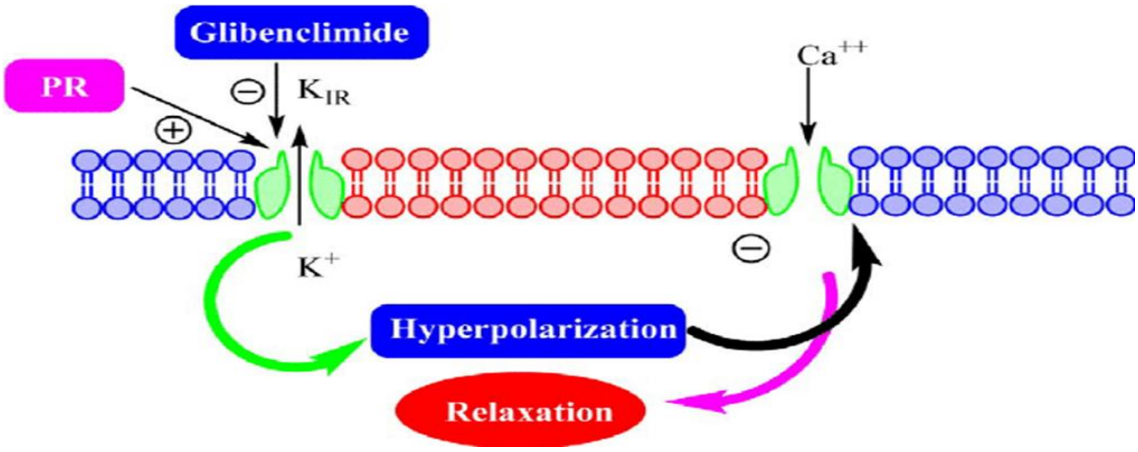


Fig 07: ***Mechanism of antispasmodic agent***

Treatment for severe symptoms

5-HT-receptor agonists incur to 5-HT-receptors in the brain and suppress serotonin release, reducing pain, nausea, and other migraine symptoms.

❖ Diarrhea-predominant IBS.

Treatment for mild symptoms

IBS with diarrhea (IBS-D): greater than 25% loose stools and fewer than 25% firm stools. It appears to be the most prevalent subtype, involving around 40% of individuals [33]. IBS-D is a form of IBS in which a person has frequent episodes of diarrhea with concomitant stomach discomfort.

➢ Trial diet excluding lactose and caffeine; other dietary changes

Get the Right Type of Fiber:

- Apples
- Citrus fruits
- Carrots
- Beans
- Oats etc

Treatment for moderate symptoms

➢ Loperamide

It reduces gastrointestinal peristalsis and fluid secretion, slows colonic transit time, and enhances gastrointestinal fluid and electrolyte absorption [34-36]. Loperamide also raises rectal tone, decreases daily fecal volume, and raises stool viscosity and bulk density [37].

Treatment for severe symptoms

Serotonin type 3 (5HT3) Antagonists:

- Alosetron (Lotronex).
- Alosetron is a 5-HT3 antagonist used for the management of severe diarrhea-predominant irritable bowel syndrome (IBS) in women only.
- Ondansetron
- Ramosetron
- Granisetron

Lotronex works by preventing serotonin from acting on the digestive system. This alleviates the cramping, stomach discomfort, urgency, and diarrhea associated with IBS**.**

❖ Pain-predominant IBS.

Treatment for mild symptoms

Chronic pain (pain that lasts 6 months or more) in IBS can occur anywhere in the abdomen (belly), although it is most commonly reported in the lower abdomen. It may intensify immediately after eating and be eased or aggravated by a bowel movement**.**

Treatment for moderate symptoms

They inhibit the absorption of serotonin as well as norepinephrine in presynaptic terminals, resulting in a rise in the concentration of these neurotransmitters in the synaptic cleft. Higher norepinephrine as well as serotonin concentrations in the synapse most likely contribute to its anti-depressive impact.

Certain antidepressants can also assist in the regulation of aberrant bowel functions such as diarrhea and constipation or other IBS symptoms. Tricyclic antidepressants (TCAs) aid in treating diarrhea whereas serotonin reuptake inhibitors (SSRIs) aid in treating constipation**.**

- **Mechanism of antidepressants in IBS**

The brain is constantly monitoring as well as digesting everything that happens in the body. As previously stated, antidepressants are known to function at the brain & spinal cord levels to block pain transmissions between the GI tract and the brain, lowering visceral hypersensitivity. In consequence, more normal brain-gut interaction is restored potentially by assisting the brain in sending down messages to inhibit incoming pain impulses which is a naturalistic reaction. Antidepressants, like insulin, may help restore the brain's capacity to react to pain signals. Certain antidepressants can also assist in the regulation of aberrant bowel functions such as diarrhea and constipation or other IBS symptoms. Tricyclic antidepressants (TCAs) aid in treating diarrhea, whereas serotonin reuptake inhibitors (SSRIs) aid in treating constipation. Furthermore, these medications can aid in the treatment of other issues like anxiety & depression, which are frequently connected with chronic pain illnesses. Finally, there is mounting evidence that antidepressants can encourage nerve cell proliferation and perhaps restore more than normal neuron activity in the brain and gut over time. This is why, at our Center, we may prescribe a year or 2 of therapy before going off the drug.

- **Use of antidepressants for IBS**

Antidepressants are typically not required in patients with moderate IBS symptoms. Other therapies may be effective in controlling their symptoms. Patients with moderate to severe IBS may benefit from antidepressant medication either alone or in conjunction with other therapies. The full effects (benefits) of antidepressants often take 4 to 6 weeks to manifest. Low doses are often used at 1st and progressively raised as required. In a few circumstances, a tiny dosage is all that is required to improve symptoms.

- **Treatment for severe symptoms (if diarrhea occurs)**

5HT3 antagonists (Alosetron and Cilansetron) inhibit the activation of 5HT3 receptors on extrinsic afferent neurons as well as can reduce IBS-related visceral discomfort. They reduce gastrointestinal motility & are thus beneficial in IBS-D.

1.6. Why does IBS Affect more Women than Men?

Smooth muscle cells line the walls of your stomach and intestines and contract naturally to assist in digestion. When estrogen and progesterone levels are high, it can slow down gastrointestinal motility. This is why women are more likely than men to suffer from IBS-C.

1.7. What conditions are related to IBS

- Heartburn**.**
- Dyspepsia.
- Dyspepsia is a very common condition shown to affect 12-30% of the population. Celiac Disease (Sprue).
- Chronic Pelvic Pain
- Inflammatory Bowel Disease
- (IBD – Crohn's and Ulcerative Colitis).
- Fibromyalgia.
- Interstitial cystitis (Painful bladder syndrome).
- Migraine Headaches.

CHAPTER 2

OBJECTIVE OF THE STUDY

2. OBJECTIVE OF THE STUDY

2.1. General objective of this study

The goal of this study was to examine Private Universities in Bangladesh of Pharmacy students' knowledge of irritable bowel syndrome (IBS).

2.2. Specific objectives of this study

- To identify knowledge about IBS among male and female participants and also identify knowledge about IBS among 4th-year and 1st-year students.
- To determine the sense of awareness.
- To determine the diagnosis practice.
- To determine the food in the diet.
- To determine the management system.

CHAPTER 3

METHODOLOGY

3. METHODOLOGY

3.1. Target population and Period

This study was conducted at Daffodil International University (DIU) in Bangladesh and the target population of this study was students of the pharmacy department. The duration of this was from September to October, 2022.

3.2 Study Design

This offline study was carried out at Daffodil International University (DIU) in Bangladesh by arranging structured question papers for pharmacy students. The study was conducted entirely offline, with self-administered surveys supplied in paper and pen formats, and the target audience was contacted and requested to reply with questions on paper. Participant responds offline.

3.3. Questionnaire development, pretesting, and validation

Following a thorough literature and book study concentrating on people's awareness of Irritable Bowel Syndrome, which was previously published in different journals and is available in Daffodil International University's library, a prototype questionnaire was produced. To test the quality of the questions, this was checked with the questions of the various literature which were previously published from India, Japan, USA, Saudi, and many European countries. This question was evaluated by a professor from Daffodil International University before being assigned as the final question. The final question was divided into four sections: participant demographic profile, knowledge, attitude, and practice. A trial survey was conducted on 15 students prior to the final survey to ensure that the questionnaire was intelligible, effective, and contained reliable data.

3.4. Inclusion Criteria

Students must be over the age of 16, pharmacy students, and Bangladesh citizens. And he or she must be interested in participating in the survey question.

3.5 Exclusion Criteria

The student who is under 16th years old are not pharmacy students and are not citizens of Bangladesh are excluded from this survey**.**

3.6. Sample size and Technique

Data from this study were collected through a convenience sampling technique. The sample size in this study was 100 and feedback was stopped when the target of 100 was met.

3.7. Strategical Analysis

Students return completed forms, which are then gathered and examined to determine the results. MS Excel was used for the statistics in order to achieve the results. Frequency and percentages were used to express the final data.

CHAPTER 4

RESULTS

4. RESULTS

4.1. Socio-demographic profile of students.

The question paper was distributed to 150 students, and 101 of them answered. The response rate was 67.33 %. As the goal of this study was 100 responses, 100 were gathered, and the data was processed without one response to avoid mistakes. B. Pharm students were 98% and M. Pharm students were 2%. There were 75% men and 25% women among the 100 responders.

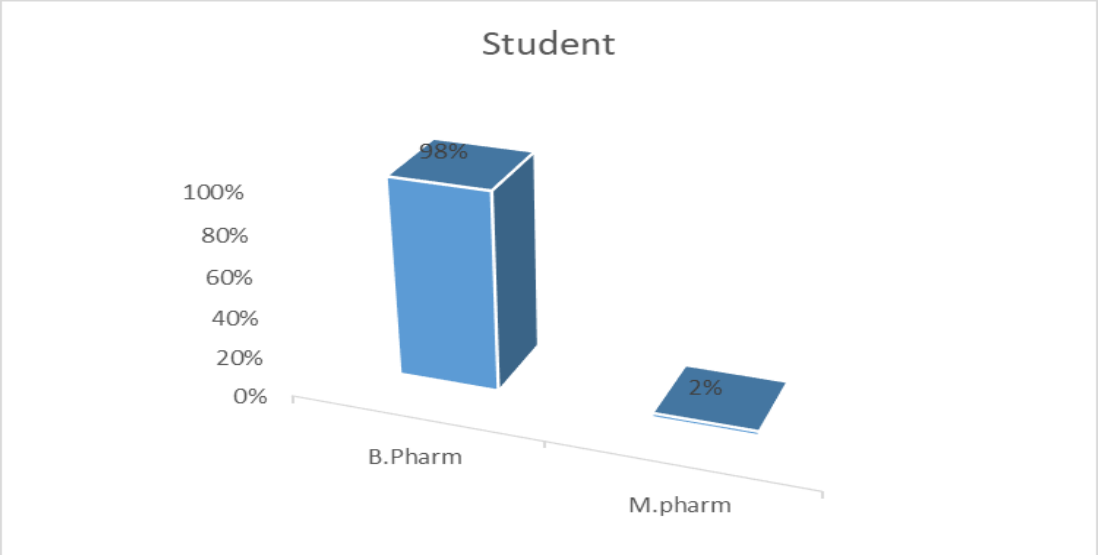


Chart 1: *Student*

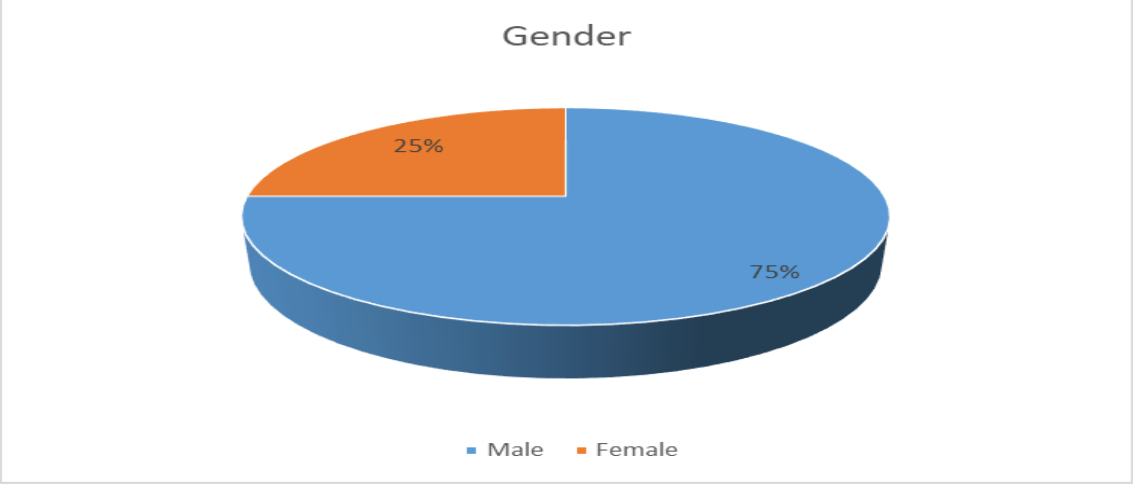


Chart 2: *Gender of participant*

The majority of respondents (94%) in this survey were between the ages of 21 and 25, and the majority of participants were fourth-year students.

The marital status, religion, and other demographic profile of participant is described in more detail in Table 1.

Table 1: Socio-Demographic profile of students.

Variable	Response rate n (%)
Gender	
Male	75%
Female	25%
Age (Years)	
16-20	3%
21-25	96%
26-30	1%
Above 35	0%
Level of Study	
1st year	11%
2nd year	15%
3rd year	17%
4th year	57%
Marital Status	
Married	9%
Unmarried	90%
Divorced	1%
Religion	
Muslim	93%
Sanatana Dharma	7%
Buddhists	0%
Others	0%

4.2. Student's knowledge about IBS.

This study discovered that 78% of part knew about IBS, while 22% said they didn't. Emotional stress, some foods, and medications can also trigger it.

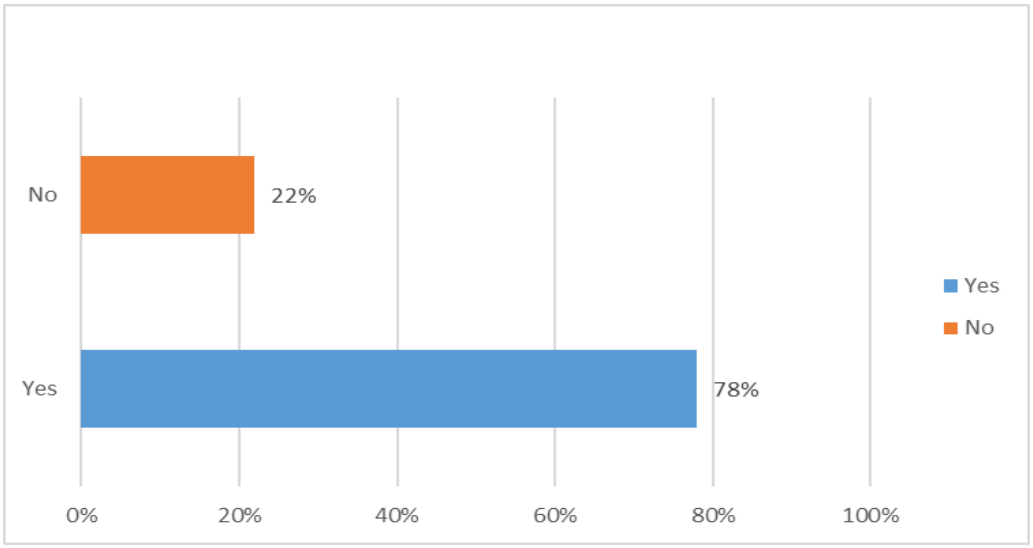


Chart 3: *Participants know about IBS*

The majority of students learned about 48% of IBS via their teachers, while the remaining 52% learned about it from newspapers, television, textbooks, social media, family members/friends, health workers, and survey questionnaires.

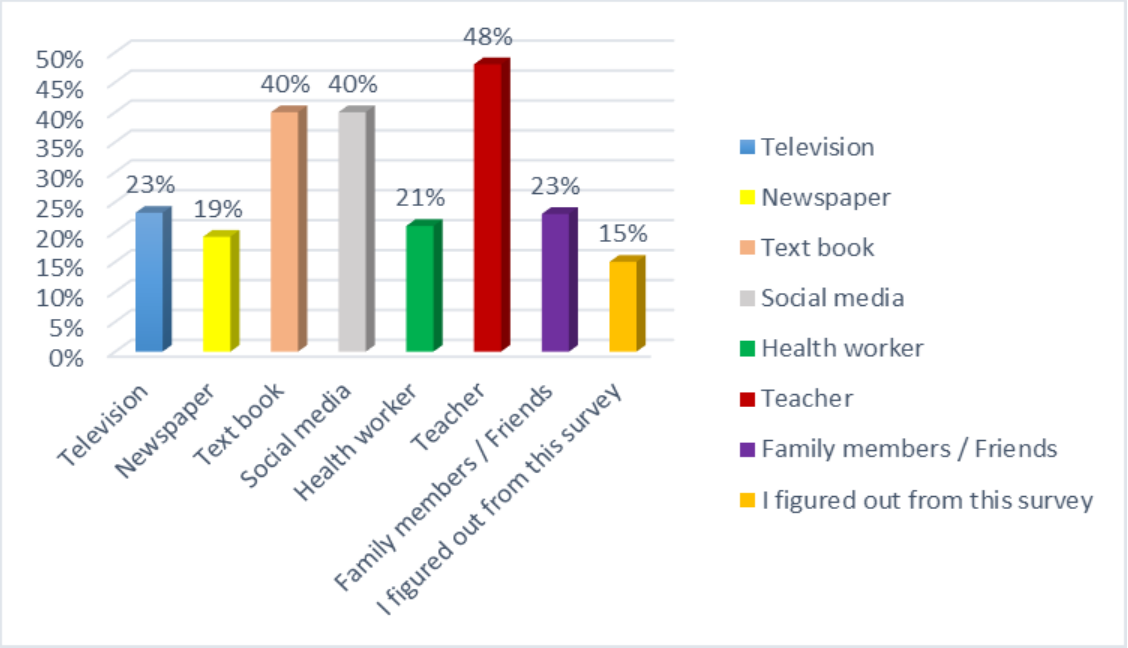


Chart 4: *Participant opinions on IBS are first heard*

The majority of the students (78%) agree that they had heard about IBS. The knowledge part is described in more detail in Tables 2 and 3.

Table 2: Students' knowledge about IBS.

Variable	Response rate n(%)	
	Yes	**No**
1. Do you know about Irritable bowel syndrome?	**78%**	**22%**
2. Is IBS a brain-gut disorder	68.5%	31.5%
3. Dysfunction in the connection between the brain and the gut may be a contributing factor to irritable bowel syndrome (IBS), is it true?	**76.7%**	**23.3%**
4. IBS may be triggered by the immune system, which is affected by stress, is it true?	**80%**	**20%**
5. Does stress make your IBS symptoms worse?	**74.7%**	**25.3%**
6. Has anyone in your family been affected by IBS?	**49.5%**	**50.5%**
7. The intestine's nerve cells are more sluggish in women that's why IBS is more common in females, is it true?	**76.9%**	**23.1%**

Table :3

Variable	Response rate n(%)			
1. What organ is affected by irritable bowel syndrome?	**Large intestine 87.6%**	**Lung 20.6%**	**Heart 9.3%**	**Kidney 13.4%**
2. What % of the population suffers from IBS?	**10% to 15% 39.80%**	**5% to10% 36.60%**	**20%25% 14%**	**15%to20% 9.70%**
3. What is the other name for the large intestine?	**Colon 72.60%**	**Pancreas 15.80%**	**Cecum 12.60%**	**Duodenum 29.5%**
4. What vitamins do IBS sufferers lack?	**E 21.10%**	**K 31.10%**	**D 37.80%**	**C 10%**
5. What food would you suggest for patients with IBS diarrhea?	**Whole grain bread 65.20%**	**Milk 37%**	**Alcohol 21.70%**	**Fatty fish 40.25%**
6. You can develop IBS at any age but it's most common for symptoms to start between the ages of 20 and 30.	**Strongly agree 35.2%**	**Strongly disagree 11%**		**Neutral 30.80%**

4.3. Students' pieces of knowledge of the IBS management system.

The majority of the students are aware of the IBS management system, as evidenced by their responses to the questionnaire; around 78.40% of students stated that they are aware of the system, while the remaining 21.60% stated that they are unaware of it. Our pharmacists must educate the public about IBS.

Participants show their feedback about the IBS management system:

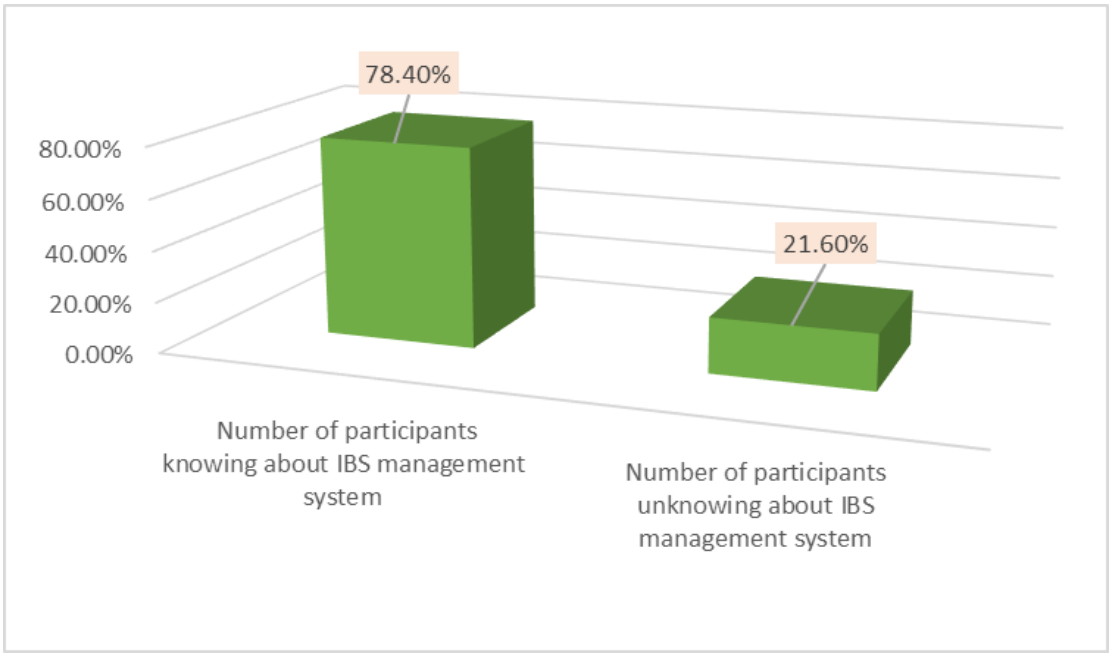


Chart 5: *Participant opinions on the IBS management system*

The IBS management method was known by 78.40% of individuals and was unknown by 21.60% of participants. The attitude part is described in more detail in table 3.

Table 4: Students' pieces of knowledge of the IBS management system.

Variable	Response rate n (%)	
	Yes	No
1.Can too much Serotonin cause diarrhea or does less Serotonin cause constipation for IBS?	**76.9%**	**23.1%**
2.Both tricyclic antidepressants (TCAs) and selective serotonin reuptake inhibitors (SSRIs) might improve overall IBS symptoms is it true?	**78.6%**	**21.4%**
3. Can Endoscopy be the start of treatment for IBS?	**68.9%**	**31.1%**
4. Are probiotics good for IBS?	**85.6%**	**14.4%**
5. Alosetron is the first line treatment for IBS do you know?	**70.7%**	**29.3%**
6. Is Yogurt good for IBS?	**75.8%**	**24.2%**
7. Acetaminophen is the best painkiller for IBS do you agree?	**65.5%**	**34.8%**
8. Although IBS isn't curable, treatment can help lessen symptoms, are you sure?	**71.6%**	**28.4%**

4.4. Diagnosis Practice of IBS among students.

68.9% of students claimed they are aware of the IBS diagnosing practice, while 31.1% said they are not.

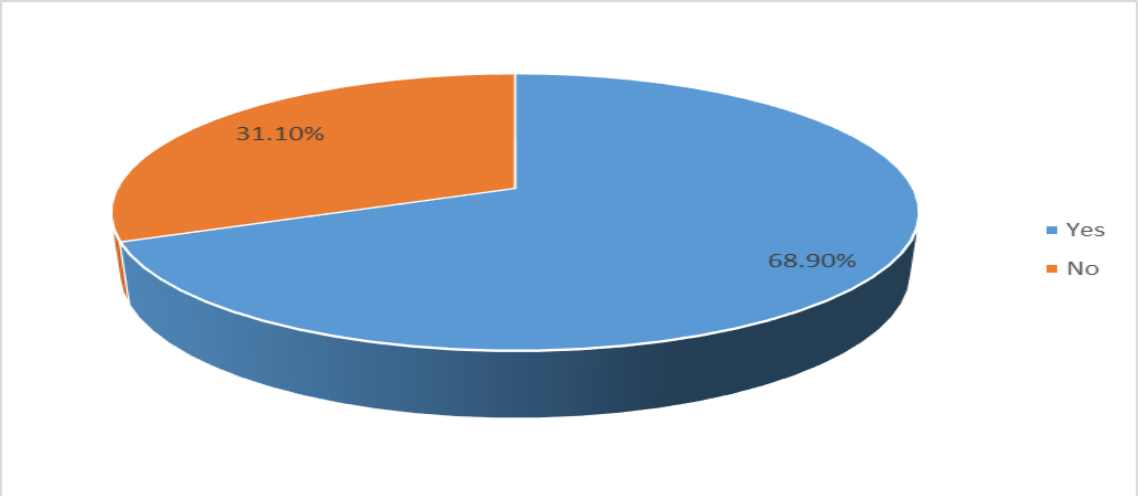


Chart 6: *Diagnosis Practice of IBS among students.*

CHAPTER 5

DISCUSSION

5. DISCUSSION

The students took part in this study on the spur of the moment. They were not coerced; all pupils took part willingly. Their participation in this study implies that they have IBS. According to the current survey, 78% of participants have heard of IBS. The study's five components aim to enlighten participants about their knowledge, behavior, diagnosis practice, and management. Where in the Knowledge section they are asked various questions about IBS such as signs and symptoms, treatment, diagnosis, food, about stress management.

There were 75% male participants and 25% female participants, and it was discovered that while the number of female participants was lower, their percentage of knowledge was higher since they knew that female people suffer more from IBS because their intestinal nerve cells are slower in women. Female participants reported seeing female members of their families suffer more during a direct chat about IBS when the questionnaire was handed to them. Approximately 80% of IBS participants were aware of the signs and symptoms. 65.2% stated that the real diet necessary for IBS. For example, 78.4% learned about treatment from medical experts, and 80% learned about stress management. They learned about it via instructors, various social media platforms, newspapers, television, and other sources. 4th-year students' knowledge about IBS was more than 1st-year.

The main factors contributing to Irritable bowel syndrome:

IBS may also be linked to an excess of bacteria in the intestines (bacterial overgrowth). Stress in childhood People who have been exposed to stressful experiences, particularly as children, are more likely to suffer from IBS symptoms. Gut microorganism changes.

However, in Asian nations, IBS prevalence ranges from 2.3% to 34% [38].

Southeast Asia has the lowest frequency of IBS (7.0%) globally, whereas South America has the highest (21.0%). Unfortunately, the frequency in Africa is unclear due to a lack of population-based investigations. Such research is required in nations where detailed epidemiological data are lacking.

Various population-based studies have been undertaken across these nations to determine the prevalence of IBS, and the frequency of IBS ranges from 4.2 to 7. 5%, as well as 7.7 to 12.9% between India and Bangladesh.

Scientists think that IBS affects 7% to 16% of the US population and 10% to 15% of the global population.

People all around the world suffer from IBS. It is a common gastrointestinal disorder. However, based on the subsequent indications and symptoms, it is concluded that the patient is suffering from this illness. Many people's lives may be risked since there is minimal knowledge of this issue in Bangladesh. The purpose of this survey is to determine how much pharmacy students know about IBS and to assist them in learning more. If a family member suffers from IBS, they may educate others and increase awareness.

Since the study was conducted offline, the findings were dependent on the feedback provided by the study participants, and so the respondents may have been prejudiced because they did not report the right behavior of some of their queries. Other constraints may exist in terms of research participants, with the study being more generalizable if other health professional students are included.

CHAPTER 6

CONCLUSION

6. CONCLUSION

According to the study's findings, a large percentage of participants had a solid understanding of the disease's symptoms, indications, risk factors, prognosis, and treatment options. It is advised that a health care program take on the duty of improving knowledge and awareness about the condition and minimizing the rate by avoiding the triggers. In order to examine the IBS patients in nearby public health care facilities and precisely quantify the prevalence, larger observational studies of this nature must also be carried out.

CHAPTER 7

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7. REFERENCES

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