Thesis on

A survey on the knowledge and perceptions of long term uses of proton pump inhibitors among patients with gastrointestinal disorders in Dhaka medical college hospital

[*In the partial fulfillment of the requirements for the degree of Masters of Pharmacy]*

Submitted To

The Department of Pharmacy,

Faculty of Allied Health Sciences,

Daffodil International University

Submitted By

Sanzida Sharmin Shanta

Student ID: 0242220011093020

Department of Pharmacy,

Faculty of Allied Health Sciences,

Daffodil International University

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APPROVAL

This thesis paper, **A survey on the knowledge and perceptions of long term uses of proton pump inhibitors among patients with gastrointestinal disorders in Dhaka medical college hospital,** 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 Masters of Pharmacy and approved as to its style and contents.

BOARD OF EXAMINERS

……

Dr. Muniruddin Ahmed

Professor and Head,

Department of Pharmacy,

Faculty of Allied Health Sciences,

Daffodil International University

…… Internal Examiner 1

……. . Internal Examiner 2

…… External Examiner 3

DECLARATION

I hereby declare that this thesis report, **A survey on the knowledge and perceptions of long term uses of proton pump inhibitors among patients with gastrointestinal disorders in Dhaka medical college hospital,** is done by me under the supervision Dr. Md. Sarowar Hossain Associate Professor, I am declaring that this thesis is my original work. I also declare that neither this thesis nor any part therefore has been submitted elsewhere for the award of master's degree.

Supervised by

……

Dr. Md. Sarowar Hossain

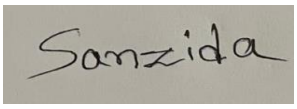
Associate Professor

Department of Pharmacy

Faculty of Allied Health Sciences

Daffodil International University

Submitted By



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Sanzida Sharmin Shanta

Student ID: 0242220011093020

Department of Pharmacy

Faculty of Allied Health Sciences

Daffodil International University

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I might want to communicate my profound applause to the All-powerful Allah who has given me the capacity to finish my undertaking work and the chance to concentrate in this subject.

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Dedication……

My Parents

The persons who always encourage me in every sphere of my life

Abstract

Proton pump inhibitors (PPIs) are widely prescribed medications for the management of various gastrointestinal disorders. This survey aims to investigate the knowledge and perceptions of patients with gastrointestinal disorders regarding the extended use of PPIs. The study employs a cross-sectional design, utilizing a structured questionnaire administered to a diverse sample of patients diagnosed with gastrointestinal disorders who are currently undergoing long-term PPI therapy. The survey assesses participants' awareness of the indications for PPI use, understanding of potential side effects and risks associated with prolonged usage, and their perceptions of the necessity for continued medication. In this investigation most of the responders (77%) have been affected gastrointestinal disease. Majority of the responders 44% replied they have been diagnosed gastrointestinal disease from less than one year, 31% responders replied they have been diagnosed gastrointestinal disease from 1-5 years. Among them majority participants 30% responded that they have been suffered Gastroesophageal reflux disease (GERD). Also 20% participant's responded that they have been suffered change in normal bowel habits. According to the survey, most of the responders (78%) have been said they haven't aware about complication of long term use of Proton Pump Inhibitor (PPI). 32% participants replied that they have been suffered Bone fractures, 25% responded suffered Clostridium difficile-associated diarrhea, and 18% replied they suffered chronic kidney disease due to long term use of Proton Pump Inhibitor (PPI). In this investigation, maximum participants 55% replied that they have been taken PPI daily, 22% replied 2-3 times a week and 18% replied 4-5 times a week taken Proton Pump Inhibitor. Majority of the participants 92% replied that they have been taken regularly PPI without doctor prescribing. Here demonstrate that 40% responders replied they have been PPI in morning empty stomach, 25% replied they have been taken PPI at night 30 min before and 30% responders taken after meal. Ultimately, this survey serves as a valuable foundation for future research and interventions aimed at enhancing patient education and understanding regarding the long-term use of proton pump inhibitors.

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Chapter 1
Introduction

1. Introduction

Gastrointestinal disorders affect a substantial portion of the global population, encompassing a diverse range of conditions that impact the functioning of the digestive system. Proton pump inhibitors (PPIs) have emerged as a cornerstone in the management of various gastrointestinal disorders, offering relief from symptoms such as acid reflux, peptic ulcers, and gastro esophageal reflux disease (GERD). While PPIs are widely prescribed and have demonstrated efficacy in alleviating symptoms, their long-term use has become a subject of increasing concern [1]. This survey aims to explore the knowledge and perceptions surrounding the long-term use of proton pump inhibitors among patients with gastrointestinal disorders. As PPIs are often prescribed for extended periods to manage chronic conditions, it becomes crucial to understand how patients perceive the benefits and risks associated with prolonged usage. Additionally, healthcare providers must be attuned to patient knowledge levels, as informed decision-making is fundamental to optimizing treatment outcomes and minimizing potential adverse effects [2]. The survey delves into patient awareness regarding the duration of PPI therapy, potential side effects, and alternative treatment options. It also seeks to identify factors influencing patient preferences and attitudes toward long-term PPI use, including the impact of healthcare provider communication, educational resources, and personal experiences. By shedding light on the knowledge and perceptions of patients with gastrointestinal disorders regarding the extended use of proton pump inhibitors, this survey aims to contribute valuable insights to both healthcare professionals and patients [3]. Ultimately, fostering a deeper understanding of patient perspectives can guide clinicians in tailoring treatment approaches, promoting informed decision-making, and enhancing the overall quality of care for individuals managing chronic gastrointestinal conditions. [4].

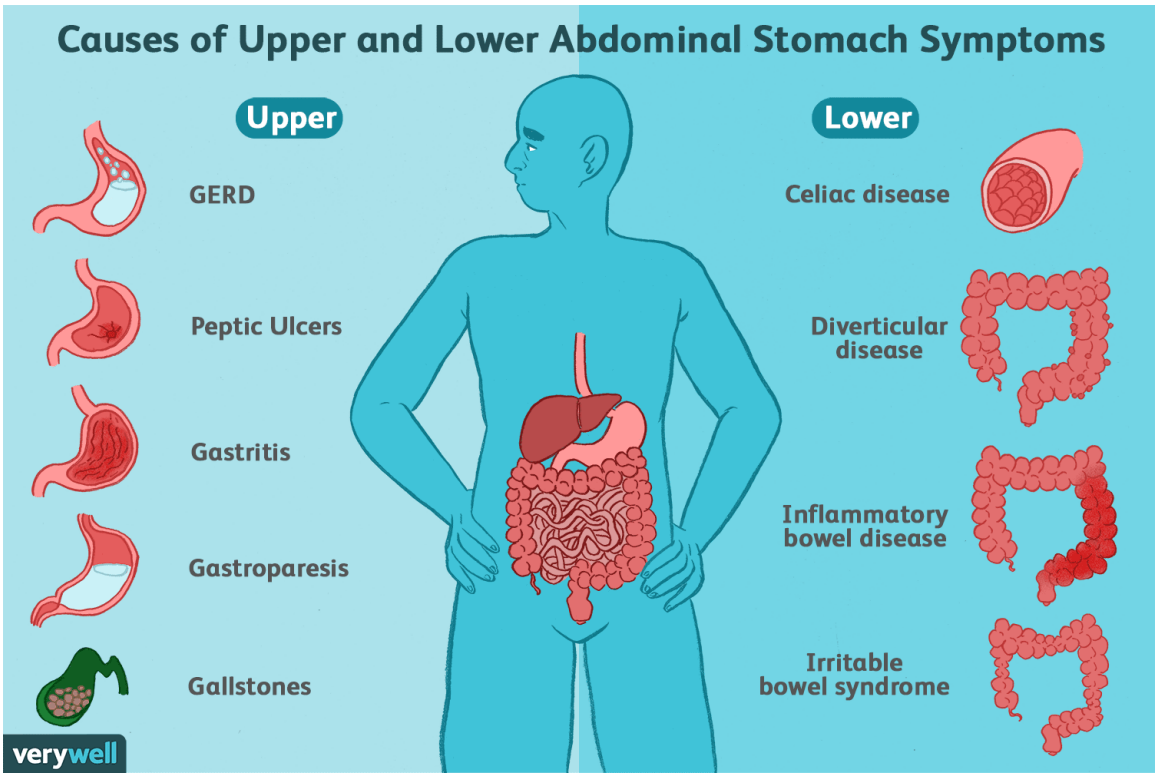

Figure 1: Common Gastrointestinal disease

1.1 Proton Pump Inhibitor (PPI)

A proton pump inhibitor (PPI) is a class of medications that plays a crucial role in the management of various gastrointestinal disorders, particularly those related to excessive stomach acid production. These drugs are designed to reduce the secretion of gastric acid by inhibiting the activity of proton pumps in the stomach lining [5]. Proton pumps are responsible for the final step in the production of stomach acid. They actively transport hydrogen ions into the stomach, where they combine with chloride ions to form hydrochloric acid. This acid is essential for the digestion of food, but an overproduction can lead to various medical conditions, such as gastro esophageal reflux disease (GERD), peptic ulcers, and Zollinger-Ellison syndrome [6]. PPIs work by binding to the proton pump and blocking the final stage of acid production. By doing so, they effectively reduce the concentration of acid in the stomach, alleviating symptoms and promoting the healing of conditions related to excess acidity. Commonly prescribed PPIs include omeprazole, esomeprazole, lansoprazole, pantoprazole, and rabeprazole [7].

These medications are often used to treat a range of conditions, including:

Gastroesophageal Reflux Disease (GERD): PPIs are frequently prescribed to manage the symptoms of GERD, such as heartburn and regurgitation. They help heal the esophagus when it has been damaged by stomach acid [8].

Peptic Ulcers: PPIs are effective in treating peptic ulcers, which are sores that develop on the lining of the stomach, small intestine, or esophagus. By reducing stomach acid, PPIs promote the healing of these ulcers and prevent their recurrence.

Zollinger-Ellison Syndrome: This rare condition involves the development of tumors in the pancreas or duodenum, leading to excessive production of stomach acid. PPIs are often part of the treatment plan for managing this syndrome [9].

Erosive Esophagitis: PPIs are used to treat inflammation and damage to the esophagus caused by stomach acid.

While proton pump inhibitors are generally safe and well-tolerated, long-term use may be associated with certain side effects, such as an increased risk of bone fractures, kidney disease, and infections. It is important for individuals to use PPIs under the guidance of a healthcare professional, and the duration of treatment should be carefully monitored to balance the benefits and potential risks. In summary, proton pump inhibitors are powerful medications that provide relief for individuals suffering from conditions related to excessive stomach acid. Their widespread use has significantly improved the management of gastrointestinal disorders, but their long-term usage should be approached with caution, considering individual health factors and potential side effects [10].

1.2 Mechanism of Action of Proton Pump Inhibitor (PPI)

Proton pump inhibitors (PPIs) are a class of medications that are commonly used to reduce stomach acid production. They are primarily used to treat conditions such as gastro esophageal reflux disease (GERD), peptic ulcers, and Zollinger-Ellison syndrome. The mechanism of action of PPIs involves the inhibition of an enzyme called the proton pump in the stomach lining [11].

Here's a step-by-step explanation of the mechanism of action of proton pump inhibitors:

Proton Pump Function

The stomach lining contains cells called parietal cells, which have proton pumps. These pumps are responsible for the secretion of hydrogen ions (protons) into the stomach. The secretion of protons is a key step in the production of stomach acid [12].

Acid Production

When you eat, the stomach needs to produce acid to aid in the digestion of food, particularly proteins. This acid is also important for killing bacteria and other microorganisms that may be present in the ingested food [13].

Activation of PPIs

Proton pump inhibitors are usually administered orally and are absorbed into the bloodstream. Once in the bloodstream, they are delivered to the parietal cells in the stomach lining.

Prodrug Activation

PPIs are typically administered in an inactive form (prodrug) and need to be activated within the acidic environment of the canaliculus of the parietal cell. The acidic environment of the canaliculus converts the prodrug into its active form [14].

Binding to Proton Pump

The activated PPIs specifically and irreversibly inhibit the hydrogen/potassium adenosine triphosphatase (H+/K+ ATPase) enzyme, which is the proton pump located in the canaliculus of the parietal cell. This enzyme is responsible for pumping hydrogen ions into the stomach, leading to the production of stomach acid [15].

Reduction in Acid Production

By inhibiting the proton pump, PPIs significantly reduce the secretion of stomach acid. This reduction in acid production is beneficial in treating conditions where excess acid can lead to damage of the esophagus (as in GERD) or the stomach lining (as in peptic ulcers).

Duration of Action

The inhibition of the proton pump is long-lasting because new pumps need to be synthesized to replace the inhibited ones. This is why PPIs are typically taken once daily, and their effects can persist even after the medication is discontinued [16].

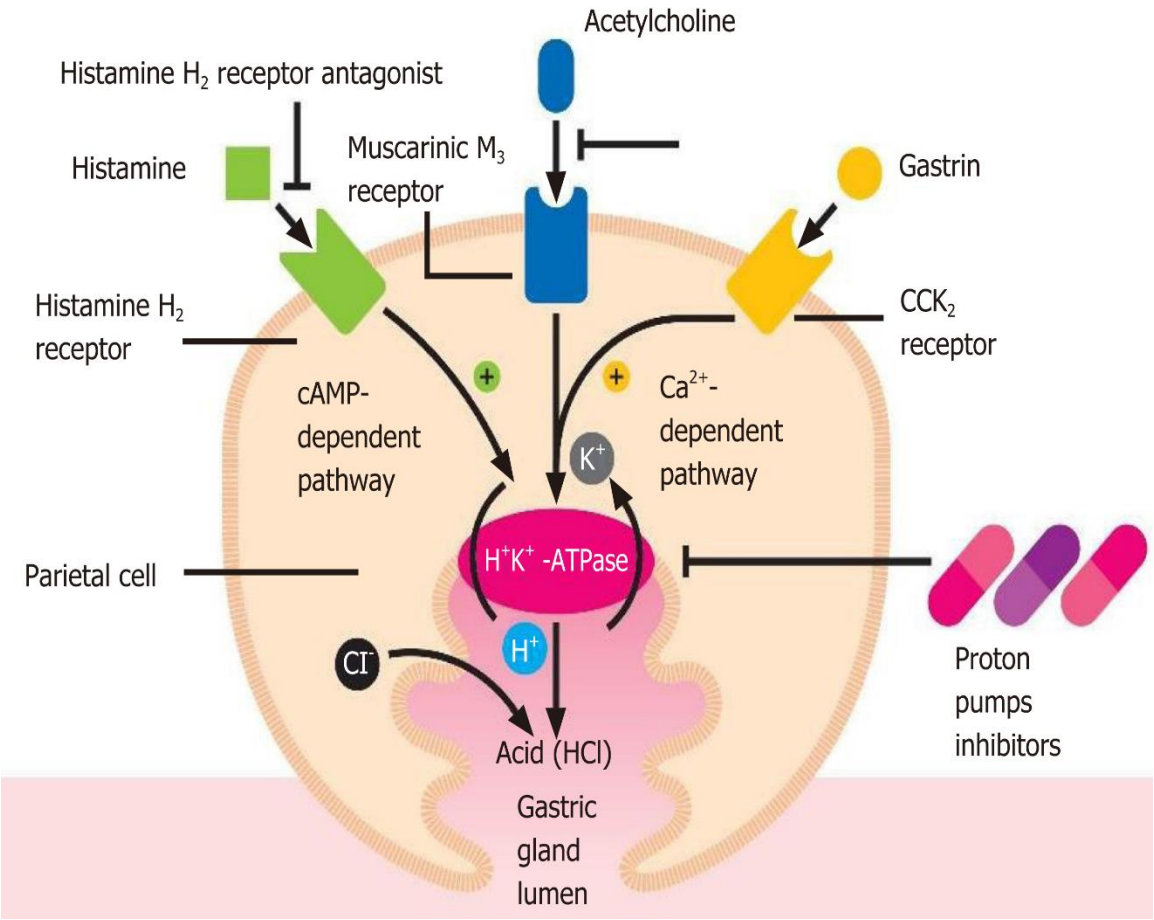

Figure 2: Mechanism of Action of Proton Pump Inhibitor (PPI)

1.3 Risk Associated with Taken Long Term Proton Pump Inhibitor

Proton pump inhibitors (PPIs) are a class of medications commonly used to treat conditions such as gastroesophageal reflux disease (GERD), peptic ulcers, and other acid-related disorders. While PPIs can be effective in managing these conditions, there are concerns about their long-term use and potential risks. It's important to note that individual responses to PPIs can vary, and the decision to use these medications should be made in consultation with a healthcare professional [17].

Here are some potential risks associated with long-term use of proton pump inhibitors:

- **Bone Health:** There is evidence suggesting a potential association between long-term PPI use and an increased risk of bone fractures, particularly in the hip, spine, and wrist. The exact mechanism behind this association is not fully understood, but it may be related to impaired calcium absorption [18].

- **Kidney Disease:** Some studies have suggested a possible link between long-term PPI use and an increased risk of kidney disease. However, the evidence is not conclusive, and more research is needed to establish a clear connection [19].
- **Infections:** PPIs can reduce the acidity of the stomach, which may increase the risk of certain infections, particularly those caused by bacteria like Clostridium difficile (C. difficile). These infections can cause diarrhea and other gastrointestinal symptoms [20].
- **Nutrient Deficiencies:** Reduced stomach acid secretion may interfere with the absorption of certain nutrients, including calcium, magnesium, and vitamin B12. Long-term deficiencies in these nutrients can have various health implications, such as bone loss and anemia [21].
- **Rebound Acid Hypersecretion:** Prolonged use of PPIs can lead to an increase in gastric acid production when the medication is stopped. This rebound effect may result in a recurrence of symptoms, potentially leading individuals to resume or increase their use of PPIs [22].
- **Clostridium difficile Infection:** PPI use has been associated with an increased risk of C. difficile infection, a bacterial infection that can cause severe diarrhea and other gastrointestinal symptoms.

It's important for individuals prescribed PPIs to use them under the guidance of a healthcare professional and to be aware of potential risks. In some cases, lifestyle modifications, dietary changes, or alternative medications may be considered as part of the overall treatment plan. Patients using PPIs for an extended period should have regular follow-up appointments with their healthcare provider to assess the ongoing need for the medication and to monitor for any potential side effects. As with any medication, the decision to use PPIs should be based on a careful consideration of the benefits and risks in the context of an individual's health and medical history [23].

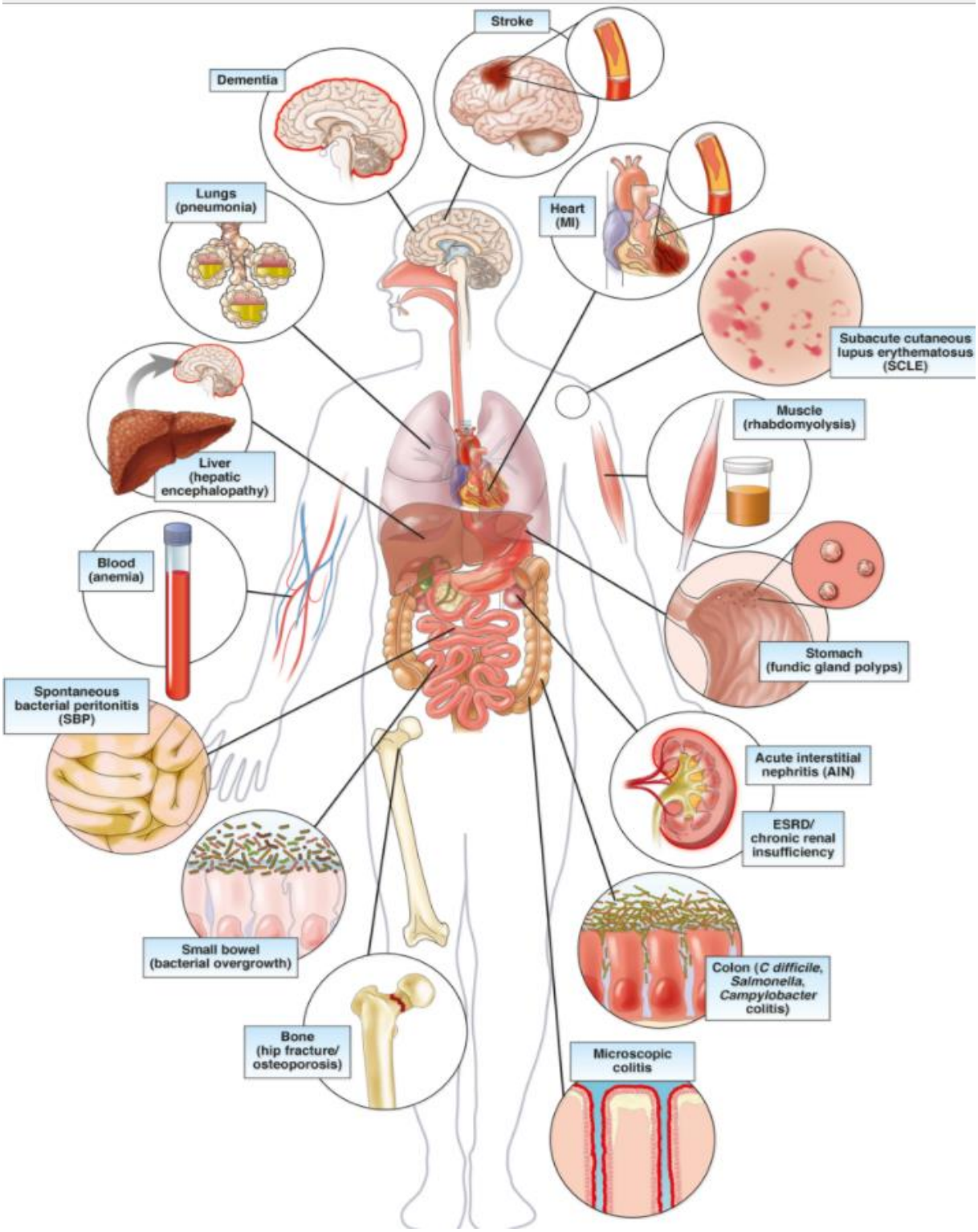

Figure 3: Schematic diagram of some of the reported adverse consequences of long-term PPI therapy

1.4 Diagnosis of Gastrointestinal disease

Diagnosing gastrointestinal (GI) diseases involves a combination of medical history, physical examination, laboratory tests, imaging studies, and sometimes endoscopic procedures [24]. Here's a general overview of the diagnostic process:

Medical History:

- Your doctor will start by asking about your symptoms, their duration, and any factors that may aggravate or alleviate them.
- They will inquire about your medical history, including any previous GI issues, family history of GI diseases, and other relevant information [25].

Physical Examination:

- A physical examination may include palpation of the abdomen to check for tenderness, masses, or abnormalities.
- Your doctor may also examine other parts of your body for signs of systemic conditions that could contribute to GI symptoms [26].

Laboratory Tests:

- **Blood tests:** These may include a complete blood count (CBC), liver function tests, kidney function tests, and inflammatory markers.
- **Stool tests:** Analysis of stool samples can help detect infections, blood, or other abnormalities.
- **Serology tests:** Blood tests for specific antibodies may be conducted to identify certain autoimmune or infectious conditions [27].

Imaging Studies:

- **X-rays:** Abdominal X-rays can provide an overview of the digestive tract and identify abnormalities such as obstructions or masses.
- **CT scans:** Cross-sectional imaging can provide detailed pictures of the abdomen and identify structural issues.
- **MRI:** Magnetic resonance imaging may be used to visualize soft tissues and blood vessels in the abdomen [28].

- **Ultrasound:** This imaging technique uses sound waves to create images of the organs in the abdominal area.

Endoscopic Procedures:

- **Upper endoscopy:** A flexible tube with a camera (endoscope) is passed through the mouth to examine the esophagus, stomach, and upper part of the small intestine.
- **Colonoscopy:** This involves the insertion of a flexible tube with a camera through the rectum to examine the large intestine.
- **Capsule endoscopy:** A small, pill-sized camera is swallowed, transmitting images as it travels through the digestive tract [29].

Biopsy:

- During endoscopic procedures, tissue samples (biopsies) may be taken for further examination under a microscope. This helps in confirming diagnoses such as inflammatory bowel disease or cancer.

Functional Tests:

- Tests like gastric emptying studies or esophageal motility studies may be conducted to assess the function of specific parts of the digestive system.

Genetic Testing:

- In certain cases, genetic testing may be employed to identify hereditary conditions associated with gastrointestinal diseases [30].

Chapter 2
Literature Review

2.1 Complications of Proton Pump Inhibitor Therapy

Proton pump inhibitor (PPI) safety concerns have garnered significant media coverage and public interest lately. Questions concerning whether PPI medication is suitable for a given patient are often directed towards gastroenterologists. Moreover, security issues may have led to the abrupt or incorrect discontinuation of PPI therapy for certain patients. With so many possibly dangerous side effects, prescribers must assess the proof with objectivity in order to determine the possibility that any relationship that has been observed is causal. Here, we examine a number of the negative effects of PPI medication that have been suggested and use accepted standards to show causality. In several of the published research, we also take residual confounding into account. There is insufficient data to determine a cause-and-effect relationship among PPI treatment and many of the suggested correlations. The majority of the current PPI safety dispute is likely the result of over extrapolating numerically tiny effect size estimates and residual confounding linked to research methodology. Patients and medical professionals are now unduly concerned as a result of this. The possibility of the suggested hazards must be taken into account in addition to the advantages of PPI medication for the proper conditions. Patients should keep taking PPIs at the lowest dosage that works for them as long as their indication has been established. It is not recommended to escalate PPI dosage or prolong long-term treatment for patients who do not respond to first empirical therapy [31].

2.2 Adverse Effects of Long-Term Proton Pump Inhibitor Therapy

Due to their superior security record, proton pump inhibitors are now among the most often given medication classes in both primary and specialized care. Long-term use, even lifelong use, is on the rise and frequently done so without the proper prescription. This paper provides a thorough analysis of the available data on this significant topic, with particular attention to the adverse reactions of long-term use of proton pump inhibitors that have raised the most concerns: iron deficiency, hypomagnesemia, hypergastrinemia and cancer, hypomagnesaemia, birth defects, and a greater vulnerability to pneumonia, enteric infections, and fractures. We examine the literature, elucidate the pathophysiological mechanisms that may underpin each of these associations, and talk about the consequences for clinical therapy. For the majority of patients, the advantages of using proton pump inhibitors exceed the hazards [32].

2.3 Complications of Proton Pump Inhibitor Therapy

Safety issues associated with proton pump inhibitors (PPIs) have recently attracted widespread media and lay attention. Gastroenterologists are frequently asked about the appropriateness of PPI therapy for specific patients. Furthermore, some patients may have had PPI therapy discontinued abruptly or inappropriately due to safety concerns. Faced with such a wide variety of potentially serious adverse consequences, prescribers need to evaluate the evidence objectively to discern the likelihood that any reported association might actually be causal. Here, we review many of the proposed adverse consequences of PPI therapy and apply established criteria for the determination of causation. We also consider the potential contribution of residual confounding in many of the reported studies. Most of the suggested links among PPI therapy and various conditions lack sufficient evidence to support a causal connection. A great deal of the present dispute about PPI safety is likely the result of over extrapolating quantitatively tiny effect size estimates and residual confounding linked to research design. Consequently, this has led to unwarranted anxiety among both patients and physicians. PPI medication has advantages for the right reasons, but it's important to weigh those advantages against the possibility of the hazards. Patients should keep taking PPIs at the lowest dosage that works for them as long as their indication has been established. It is not recommended to escalate PPI dosage or prolong long-term therapy in patients who do not respond to first empirical treatment [33].

Chapter 3
Purpose of the study

3.1 Purpose of the study

The primary objective of this study is to investigate and comprehend the knowledge and perceptions of patients with gastrointestinal disorders regarding the long-term use of proton pump inhibitors (PPIs). Proton pump inhibitors are widely prescribed medications for managing acid-related disorders such as gastroesophageal reflux disease (GERD), peptic ulcers, and Barrett's esophagus. Despite their efficacy, prolonged use of PPIs has been associated with potential risks and side effects.

Assessing Patient Knowledge:

- To evaluate the level of awareness among patients regarding the indications for long-term PPI use.
- To gauge patients' understanding of the mechanism of action of PPIs and their role in managing gastrointestinal disorders.

Perceptions of Efficacy:

- To explore patients' perceptions of the effectiveness of PPIs in controlling symptoms associated with gastrointestinal disorders over an extended period.
- To investigate whether patients believe that the benefits of long-term PPI use outweigh potential risks.

Risk Awareness:

- To identify patients' awareness of potential risks and adverse effects associated with prolonged PPI use, such as osteoporosis, kidney disease, and Clostridium difficile infection.
- To assess the extent to which patients are informed about monitoring and preventive measures for mitigating potential risks.

Communication with Healthcare Providers:

- To examine the frequency and quality of communication between patients and healthcare providers regarding the necessity and potential risks of long-term PPI therapy.

- To identify factors influencing patients' willingness to engage in open communication with healthcare professionals about their concerns related to PPI use.

Impact on Lifestyle and Quality of Life:

- To investigate the impact of long-term PPI use on patients' daily lives, including dietary habits, physical activity, and overall quality of life.
- To assess whether patients make lifestyle modifications based on their understanding of the long-term implications of PPI therapy.

Educational Needs:

- To identify gaps in patient education regarding PPIs and provide insights into areas where additional information or resources may be beneficial.
- To explore the preferred modes of information dissemination for patients with gastrointestinal disorders.

By addressing these objectives, the study aims to contribute valuable insights into the knowledge and perceptions of patients with gastrointestinal disorders regarding the long-term use of proton pump inhibitors. The findings may inform healthcare providers about areas for targeted patient education and communication, ultimately facilitating shared decision-making and optimizing patient outcomes in the management of gastrointestinal conditions.

Chapter 4
Methodology

4. Methodology

Choose a cross-sectional survey design to gather data from a representative sample of the population in Dhaka medical college hospital, Bangladesh.

- I have started work for this survey in October 2023.

4.1 Data Collection:

- Develop a structured questionnaire based on validated scales and existing literature related to Proton Pump Inhibitor.
- Translate the questionnaire into Bengali for better understanding by the local population. Train a team of data collectors on the questionnaire and ethical considerations.
- Conduct face-to-face interviews, phone interviews, or online surveys, depending on the accessibility of the respondents. Ensure informed consent and data confidentiality.
- Some important data has been collected by reviewed number of related article paper from different website like Google scholar, research gate and PubMed.

4.2 Data Variables:

- Collect demographic information, including age, gender, educational background, occupation, and residence.
- Gather information related to Proton Pump Inhibitor, such as the presence of symptoms, family history, triggers, severity, and healthcare utilization.
- Explore lifestyle factors, including smoking habits, dietary patterns, and physical activity.
- Assess environmental factors, such as air quality, housing conditions, and proximity to potential allergens.

4.3 Sample size

The test had 13 short-answer questions and took roughly four to five minutes to finish.

- I have tried my best to collect all data from different profession people for gathering different types of information.

- The examination is led by a questionnaires oriented survey, around 200 populations was being responded for this assessments.

4.4 Data analysis strategy

Data analysis is the methodical application of statistical and/or logical tools for describing and illustrating, condensing and summarizing, and evaluating data. Use appropriate statistical software to analyze the collected data. Employ descriptive statistics to summarize demographic and prevalence data.

Chapter 5
Results & discussion

5.1 Age of Responders

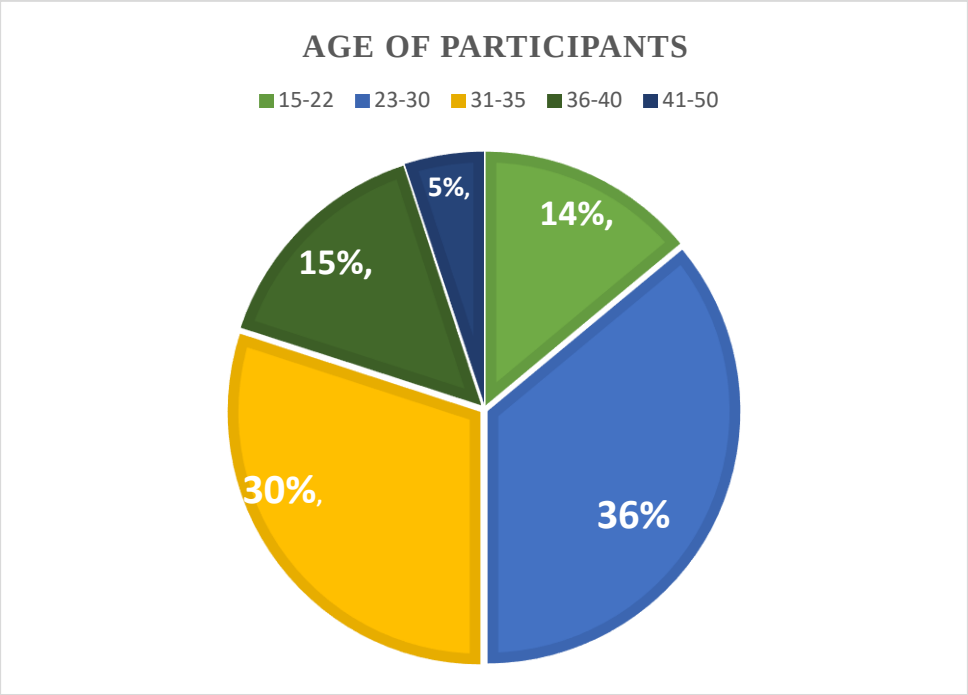

Figure 4: Age of Responders

Discussion: According to the survey, 36% responders are 23-30 age, 30% responders are 31-35 age. The majority of individuals providing responses seem to be 23-35 years.

5.2 Gender of Participants

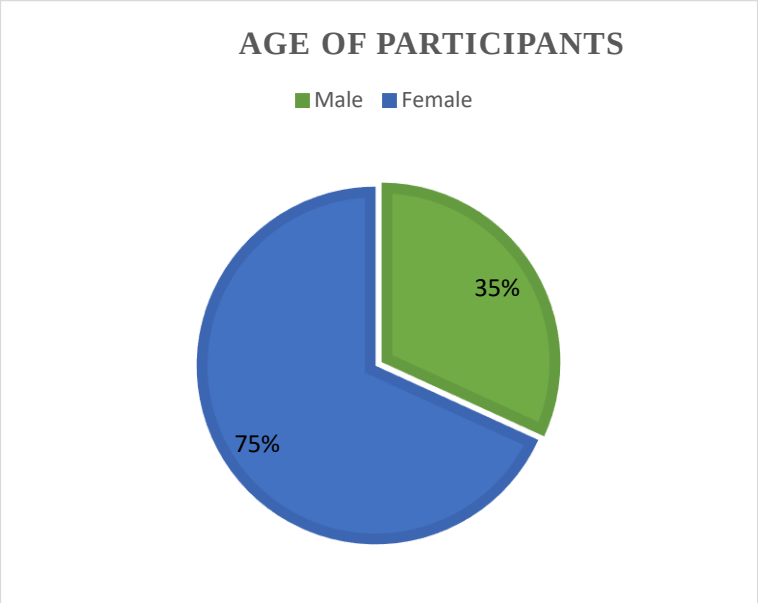

Figure 5: Gender of Participants

Discussion: The diverse gender representation in this survey, with 35% male and 75% female participants.

5.3 Professional Status of Responders

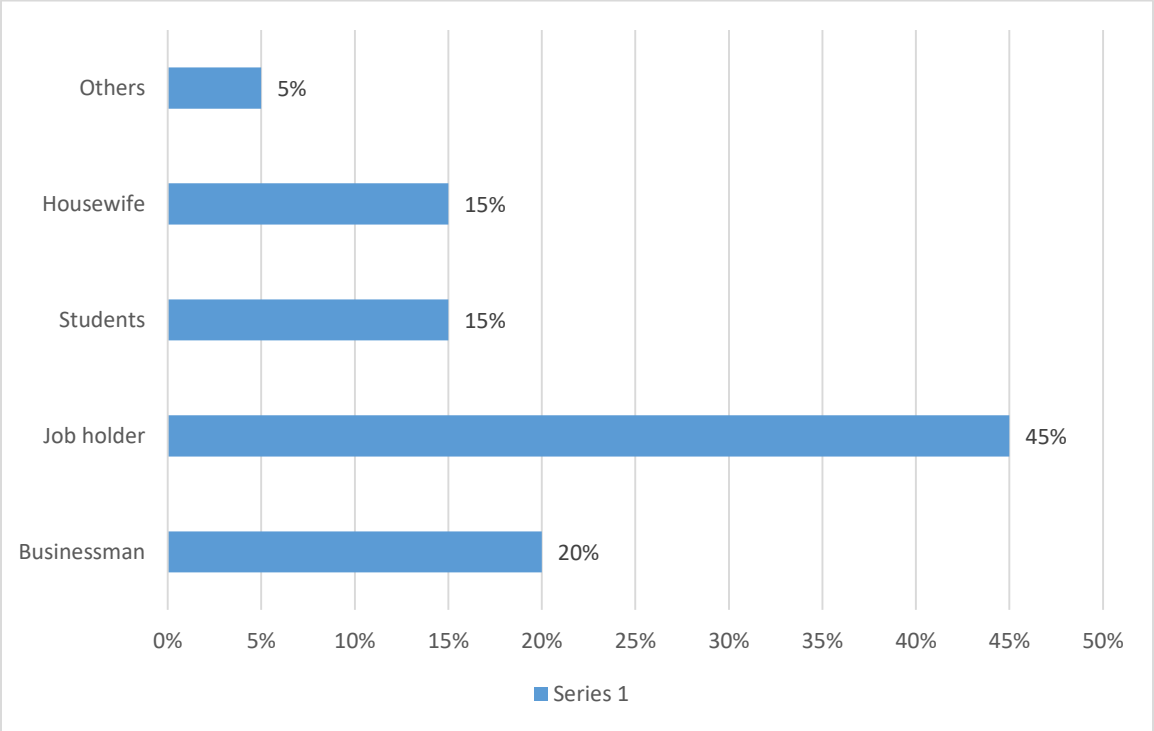

Figure 6: Professional Status of Responders

Discussion: Various professionals have been selected to participate in this assessment. Figure 6 demonstrations that 45% of the respondents are employed, and 20% are business owners.

5.4 Ratio of gastrointestinal disease affected people

Q: Do you have suffered gastrointestinal disorder?

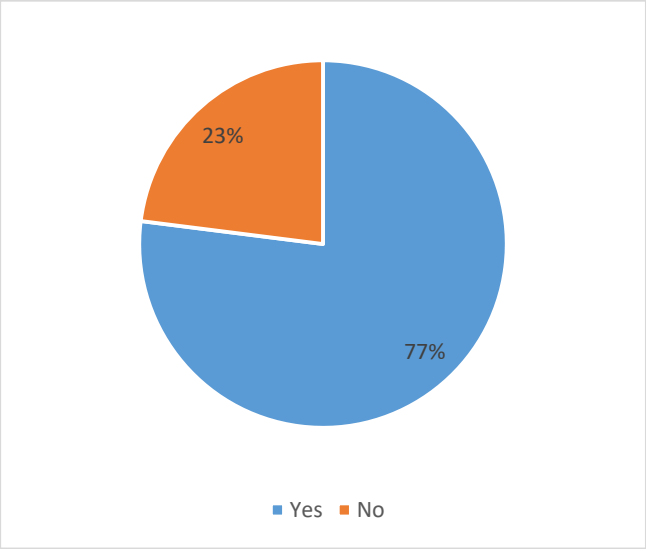

Figure 7: Ratio of gastrointestinal disease affected people

Discussion: In this investigation most of the responders (77%) have been affected gastrointestinal disease.

5.5 Duration of diagnosed with a gastrointestinal disorder

Q: If yes, How long have you been diagnosed with a gastrointestinal disorder?

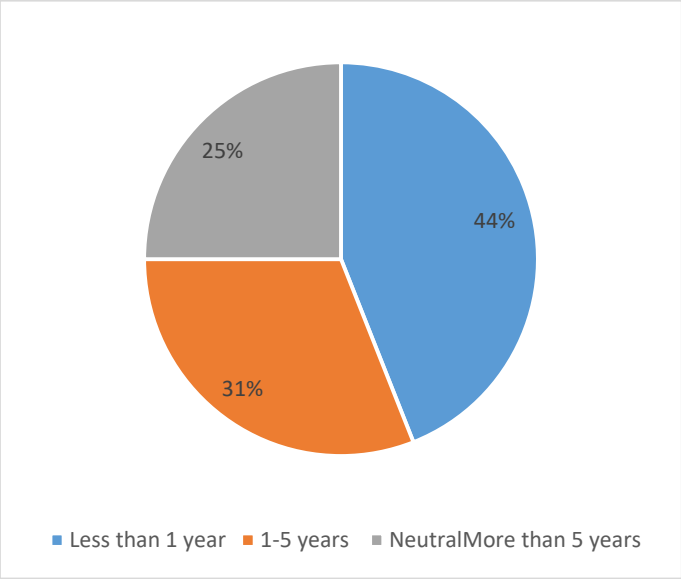

Figure 8: Duration of diagnosed with a gastrointestinal disorder

Discussion: Any illness which impacts the gastrointestinal tract the channel that connects the mouth to the anus is referred to as gastrointestinal disease. According to the investigation, majority of the responders 44% replied they have been diagnosed gastrointestinal disease from less than one year, 31% responders replied they have been diagnosed gastrointestinal disease from 1-5 years.

5.6 Symptoms of gastrointestinal disorder

Q: If yes, which type of symptoms have you been suffered?

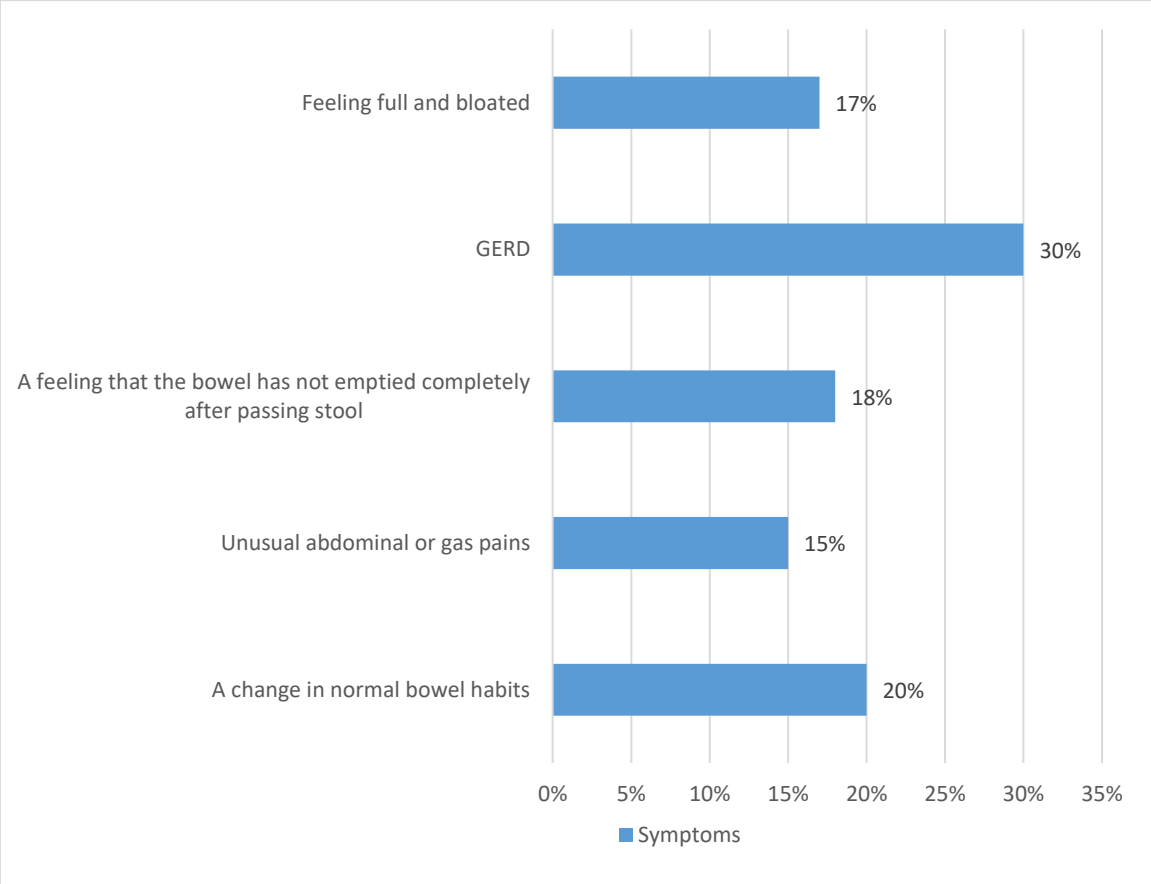

Figure 9: Symptoms of gastrointestinal disorder

Discussion: Among the affected patients, they said that they have been suffered different symptoms. Among them majority participants 30% responded that they have been suffered Gastroesophageal reflux disease (GERD). Also 20% participant's responded that they have been suffered change in normal bowel habits and 18% have been suffered A feeling that the bowel has not emptied completely after passing stool.

5.7 Awareness about complication of long term use of PPI

Q: Are you aware about complication of long term use of Proton Pump Inhibitor (PPI)?

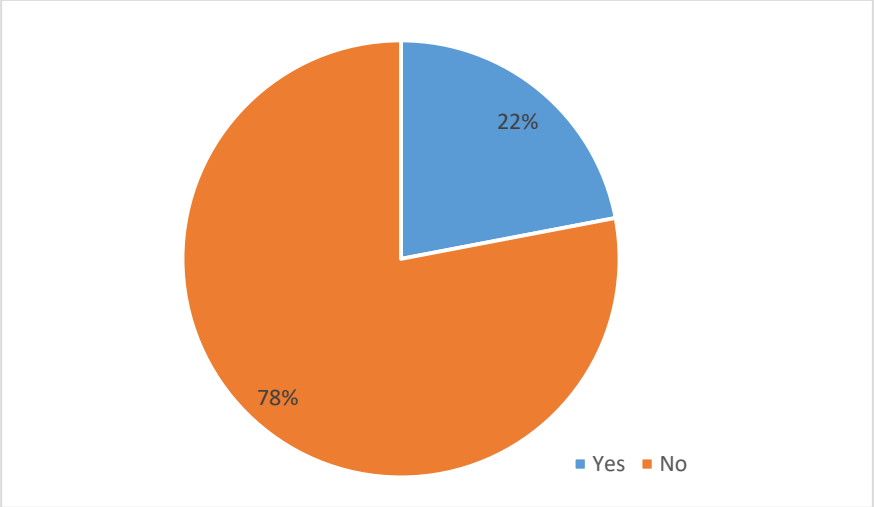

Figure 10: Awareness about complication of long term use of PPI

Discussion: According to the survey, most of the responders (78%) have been said they haven't aware about complication of long term use of Proton Pump Inhibitor (PPI).

5.8 Taken ratio of Proton pump inhibitors (PPI)

Q: Have you been taken proton pump inhibitors (PPIs) for your gastrointestinal disorder?

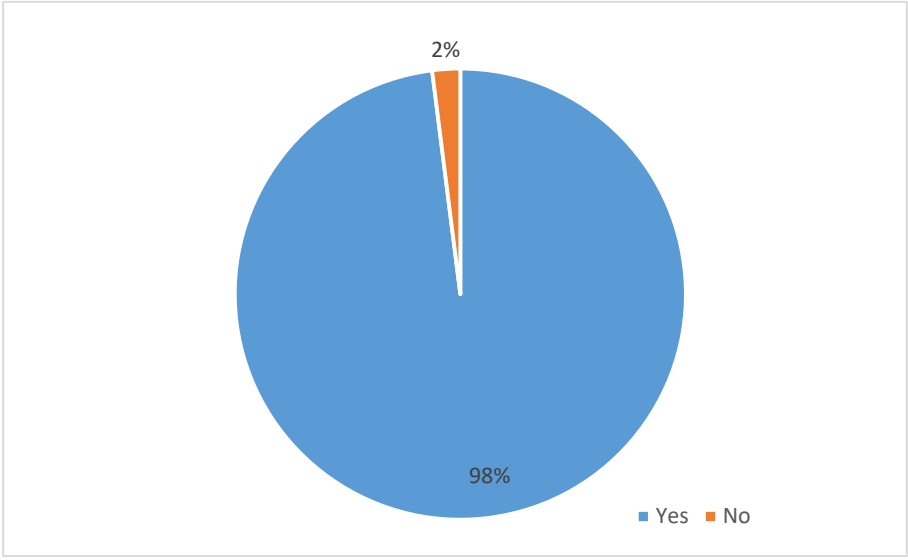

Figure 11: Taken ratio of Proton pump inhibitors (PPI)

Discussion: A class of drugs known as proton-pump inhibitors (PPIs) significantly and persistently reduces the generation of stomach acid. According to the survey, majority of the participants 98% replied they have been taken Proton Pump Inhibitors (PPI) for relieving their gastrointestinal disease.

5.9 Side effect of long term use of Proton Pump Inhibitor (PPI)

Q: Which type of side effect have been suffered due to long term use of Proton Pump Inhibitor (PPI)?

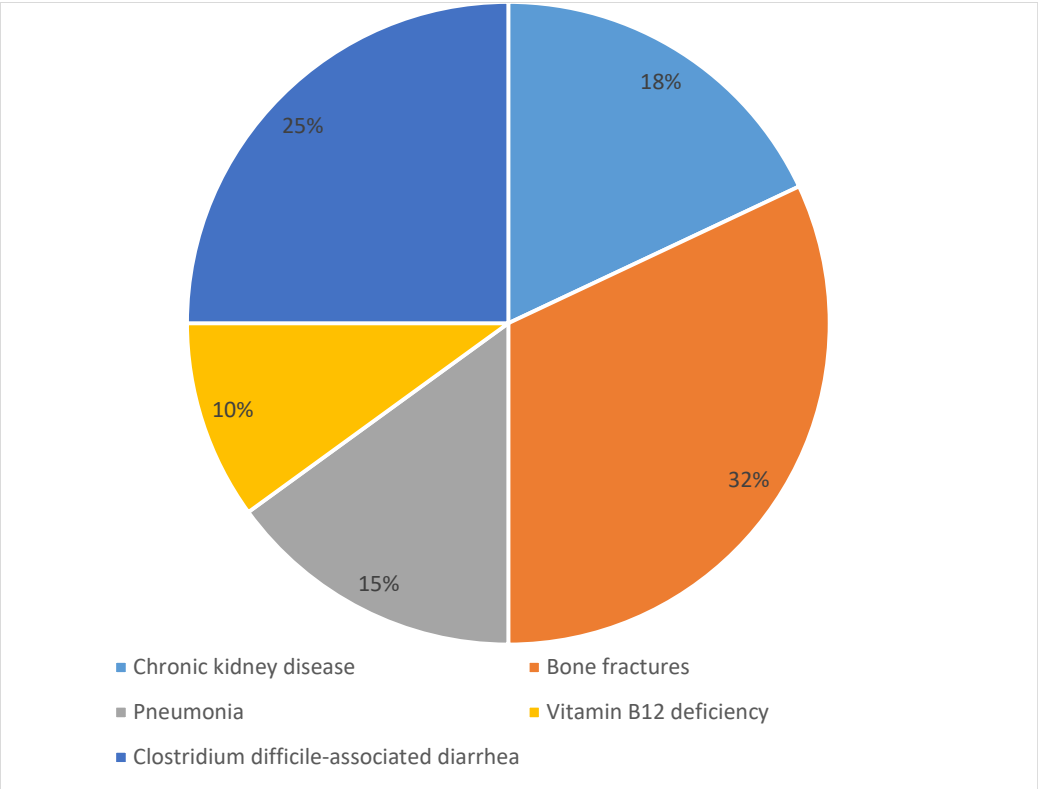

Figure 12: Side effect of long term use of Proton Pump Inhibitor (PPI)

Discussion: Numerous research have assessed the long-term PPI adverse effects (AEs) within the last ten years. According to the survey, 32% participants replied that they have been suffered Bone fractures, 25% responded suffered Clostridium difficile-associated diarrhea, and 18% replied they suffered chronic kidney disease due to long term use of Proton Pump Inhibitor (PPI).

5.10 Frequency of PPI taken

Q: How frequently do you take PPIs in a week?

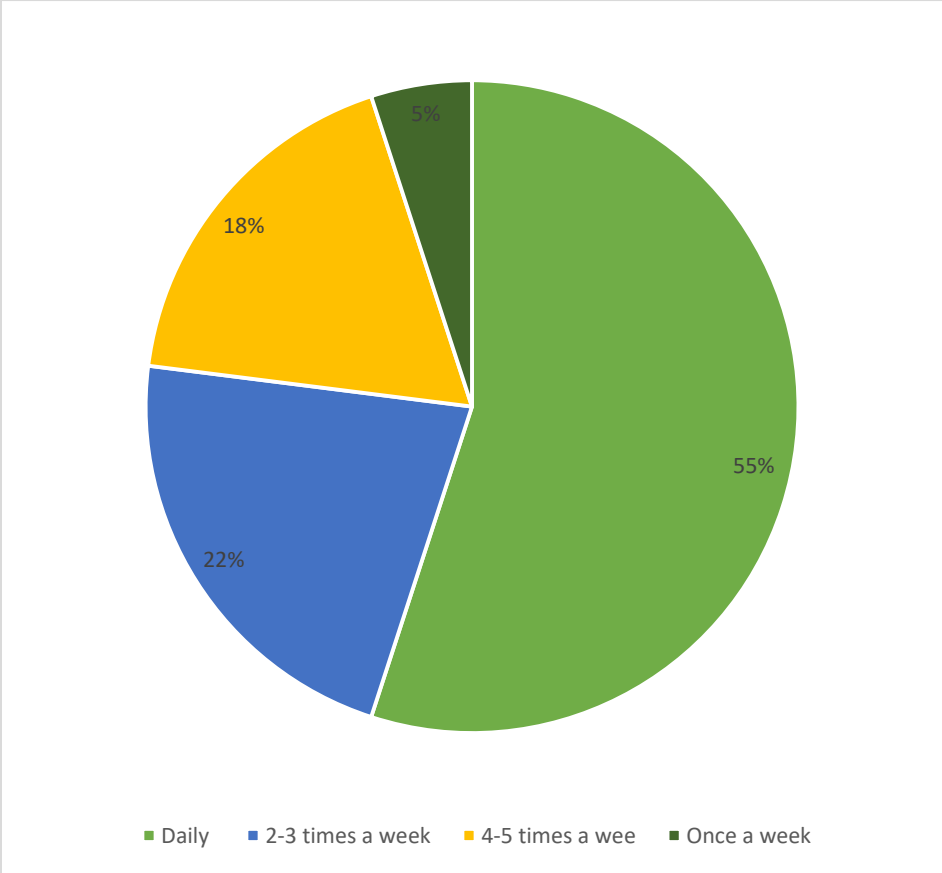

Figure 13: Frequency of PPI taken

Discussion: PPIs are not an exception to the rule that any medication that alters the body's regular physiological processes may have unforeseen effects. In this investigation, maximum participants 55% replied that they have been taken PPI daily, 22% replied 2-3 times a week and 18% replied 4-5 times a week taken Proton Pump Inhibitor.

5.11 Taken PPI without doctor suggestion

Q: Do you have taken PPI without doctor suggestion?

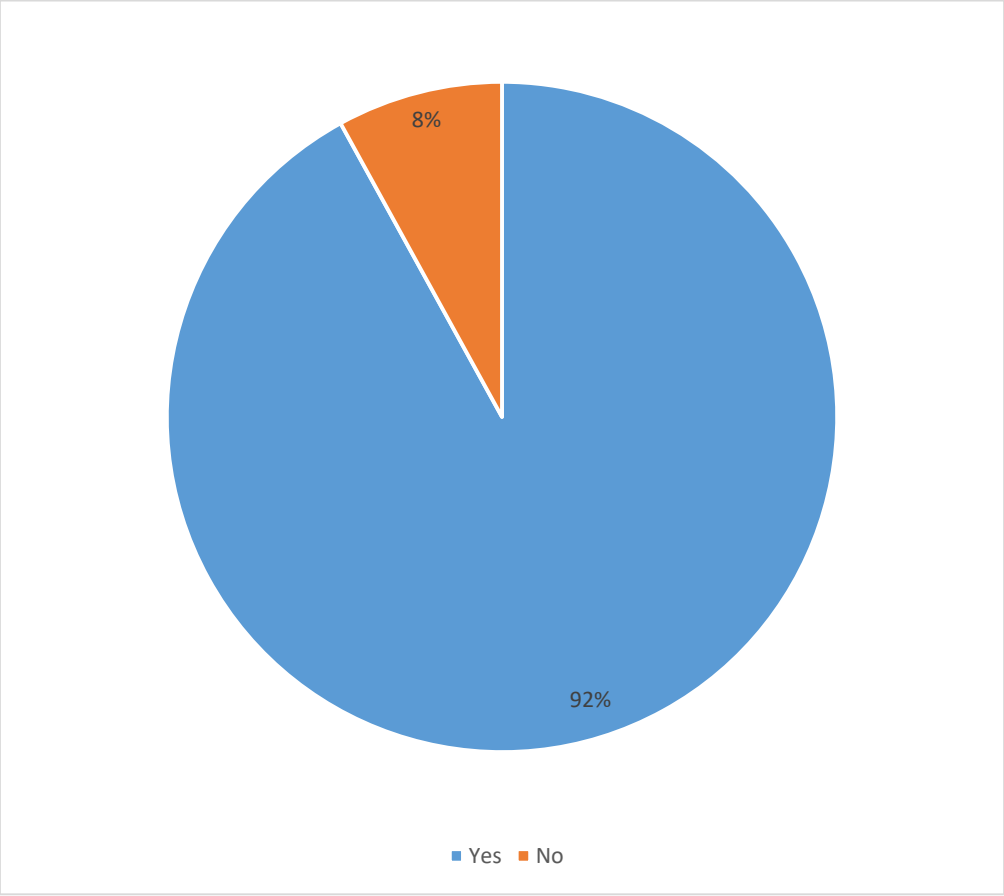

Figure 14: Taken PPI without doctor suggestion

Discussion: Taking a proton pump inhibitor (PPI) without a doctor's suggestion or prescription can have potential risks and may not be advisable. PPIs can provide relief from symptoms, but they may not address the underlying cause. By self-medicating, you might be masking a more serious condition that requires specific treatment. According to the survey, majority of the participants 92% replied that they have been taken regularly PPI without doctor prescribing. Any type of medication should be taken prohibited without practitioner advice.

5.12 Time of taken PPI

Q: When you have been taken PPI?

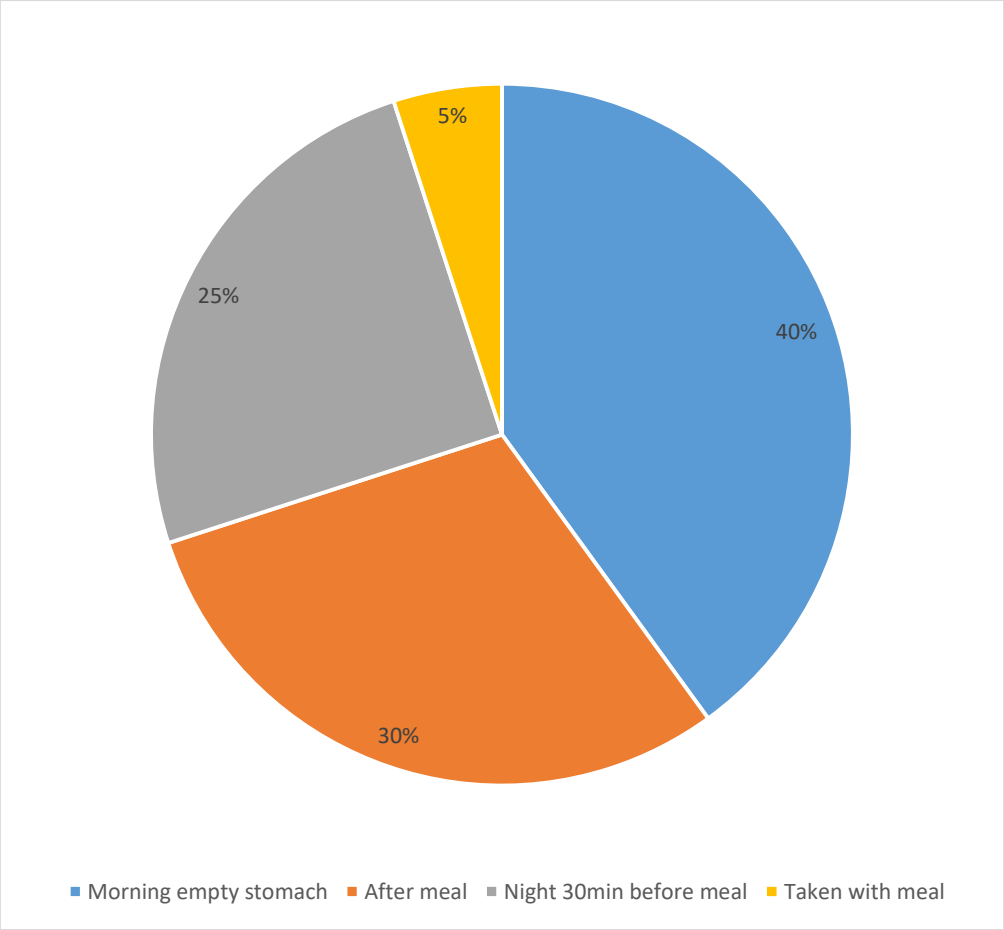

Figure 15: Time of taken PPI

Discussion: When taking a PPI once daily, the majority of healthcare professionals advise patients to take it first thing in the morning. When using twice-daily dosage, the second dose is often added around half an hour before supper. Here demonstrate that 40% responders replied they have been PPI in morning empty stomach, 25% replied they have been taken PPI at night 30 min before and 30% responders taken after meal.

Chapter 6
Conclusion

6.1 Conclusion

In conclusion, this survey has shed light on the knowledge and perceptions of long-term use of proton pump inhibitors (PPIs) among patients with gastrointestinal disorders. The findings reveal a varied understanding among participants, emphasizing the need for targeted education and communication strategies to bridge the gaps in awareness. The study highlights the importance of healthcare providers in imparting accurate information about the risks and benefits associated with prolonged PPI use, enabling patients to make informed decisions about their treatment plans. In this investigation most of the responders (77%) have been affected gastrointestinal disease. Majority of the responders 44% replied they have been diagnosed gastrointestinal disease from less than one year, 31% responders replied they have been diagnosed gastrointestinal disease from 1-5 years. Among them majority participants 30% responded that they have been suffered Gastroesophageal reflux disease (GERD). Also 20% participant's responded that they have been suffered change in normal bowel habits and 18% have been suffered A feeling that the bowel has not emptied completely after passing stool. According to the survey, most of the responders (78%) have been said they haven't aware about complication of long term use of Proton Pump Inhibitor (PPI). 32% participants replied that they have been suffered Bone fractures, 25% responded suffered Clostridium difficile-associated diarrhea, and 18% replied they suffered chronic kidney disease due to long term use of Proton Pump Inhibitor (PPI). In this investigation, maximum participants 55% replied that they have been taken PPI daily, 22% replied 2-3 times a week and 18% replied 4-5 times a week taken Proton Pump Inhibitor. Majority of the participants 92% replied that they have been taken regularly PPI without doctor prescribing. Any type of medication should be taken prohibited without practitioner advice. Here demonstrate that 40% responders replied they have been PPI in morning empty stomach, 25% replied they have been taken PPI at night 30 min before and 30% responders taken after meal. Moreover, the survey underscores the necessity of continuous monitoring and follow-up to assess patients' evolving perceptions and knowledge over time. Identifying misconceptions and addressing them through patient-centered communication can contribute to improved adherence and overall healthcare outcomes.

Chapter 7
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