

**ASSESSMENT OF KNOWLEDGE ON PREVENTION AND MANAGEMENT
OF PEPTIC ULCER AMONG STUDENTS OF THOMAS ADEWUMI
UNIVERSITY, OKO, KWARA STATE**

BY

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OKO-IRESE KWARA STATE.**

AUGUST 2025.

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20/05NSS021

AT

**DEPARTMENT OF NURSING SCIENCE, FACULTY OF NURSING,
THOMAS ADEWUMI UNIVERSITY, OKO- IRESE KWARA STATE**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF THOMAS
ADEWUMI UNIVERSITY FOR THE AWARD OF
“BACHELOR OF NURSING SCIENCE”.**

AUGUST, 2025.

DECLARATION PAGE

This is to declare that this research project titled **Assessment of Knowledge on Prevention and Management of Peptic Ulcer Among Students Of Thomas Adewumi University, Oko, Kwara State** was carried out by **Olaseinde Adedoyinsola Esther** is solely the result of my work except where acknowledged as being derived from other person(s) work or resources.

Matriculation Number:20/05NSS021

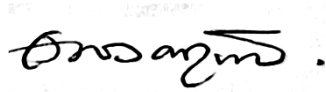
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CERTIFICATION PAGE

This is to certify that this research project by Olaseinde Adedoyinsola Esther with examination number _____ has been examined and approved for the award of “ **Bachelor of Nursing Science.**”

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ABSTRACT

This descriptive survey assessed the knowledge of nursing students at Thomas Adewumi University about peptic ulcer disease (PUD), focusing on causes, prevention, and management. The aim of this study was to evaluate students' understanding of the causes, prevention, and management of peptic ulcers, with particular attention to factors like Helicobacter pylori infection, lifestyle choices, and medication adherence. Convenience sampling was used to select 100 nursing students from 200 and 500-level classes, who completed a structured questionnaire. Responses were collected online and analyzed using both descriptive and inferential statistics. Findings revealed that most students had a moderate level of knowledge, recognizing H. pylori infection and stress as primary causes of PUD. However, significant knowledge gaps were found in dietary impacts on ulcer prevention and correct medication use, specifically with antacids and proton pump inhibitors (PPIs). Many were unclear about diet's role in ulcer prevention and the need for careful medication adherence to avoid exacerbating ulcer symptoms. The study concluded that while awareness of PUD exists among students, targeted educational programs are necessary to address gaps in understanding preventive measures and management strategies. Recommendations include integrating more comprehensive gastrointestinal health content into nursing curricula and providing accessible health education resources. Addressing these needs can better equip future healthcare providers to manage and educate on PUD effectively.

Keywords: Peptic Ulcer, Students, Knowledge, Prevention and Management.

DEDICATION

I want to express my deepest gratitude to the Lord Almighty for the successful completion of this project, and I sincerely appreciate my ever-understanding, invaluable and supportive supervisor.

ACKNOWLEDGEMENT

I want to appreciate the lord almighty my strength and helper for his sufficient grace throughout this course. All glory belongs to him for his protection, kindness and unwavering love.

A very special thank you to my invaluable and supportive supervisor Mrs Arosanyin O. O, for her never ending words of encouragement and advise to make this work a reality. The almighty lord will reward you abundantly.

Affectionally remembered are my able and intelligent lecturers, Dr Aina M.A, the dean of the faculty, Dr Fashiku E.A, Mr Kolapo K.S, Mrs Olubiyi. J.I my able level adviser, Mrs Aina. V.O and Mrs Omotosho D.O,for their moral support and encouragement throughout, may God be with you all.

To my esteemed respondent, I say a very big thank you for your support and ever foused cooperation to make this work a success.

I would like to express my sincere and heartfelt gratitude towards my very exceptional parent Mr and Mrs Olaseinde, my sisters Adedolapo Olaseinde and Adedamola Olaseinde for your great support and great quality advices, may God almighty bless you abundantly.

A sincere appreciation goes to my priceless friend, Babalola Victor for his unwavering support throughout this project. May God bless the work of your hands in Jesus name. To the entire set 2021, the pioneer faculty of nursing students, Thomas Adewumi University, God bless you all.

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CHAPTER ONE

INTRODUCTION

1.0 Background of study

Peptic ulcer disease is characterized by discontinuation in the inner lining of the gastrointestinal (GI) tract because of gastric acid secretion or pepsin. It extends into the muscularis propria layer of the gastric epithelium. It usually occurs in the stomach and proximal duodenum. It may involve the lower esophagus, distal duodenum, or jejunum (Malik, 2023).

Peptic Ulcer Disease (PUD) impacts around 4 million individuals worldwide each year (Abbasi-Kangevari et al., 2022). The incidence of PUD varies significantly between developed and developing nations. Developed countries report a lower incidence, ranging from 0.1% to 0.2%, while developing countries experience a much higher rate, between 1% and 2% (Abbasi-Kangevari et al., 2022). PUD in Sub-Saharan Africa remains a considerable cause of mortality. The overall case fatality rate for PUD in Sub-Saharan Africa has been reported at 5.7%, with this rate varying depending on the indication for surgery: 13.6% for perforation and 11.5% for bleeding (ResearchGate, 2015). Other sources indicate perioperative mortality rates from complicated PUD in Africa are substantially high, with an overall PUD mortality rate of 6.6%, which increased to 9.7% in studies published after the year 2000 (Peiffer et al., 2020; BMJ Open Gastroenterology, 2020). Upper gastrointestinal bleeding (UGIB) is a major complication, and in resource-limited settings like a hospital in Kampala, Uganda, the overall case fatality rate for UGIB was 16.7%, with PUD accounting for 16% of provisional diagnoses and 26.3% of endoscopic diagnoses (Kiringa et al., 2020).

The prevalence of *H. pylori* infection ranges from 30-40% in developed countries to 80-90% in developing countries, indicating a significant geographical variation (Xie et al., 2022; Al-Farjany et al., 2024). In developing countries, PUD remains a significant cause of mortality, with an estimated 15-20% of gastrointestinal bleeding cases resulting in death, especially in regions with inadequate healthcare facilities (Xie et al., 2022).

The global challenge of antibiotic resistance is increasingly impacting the effectiveness of standard *H. pylori* eradication therapies. Resistance to clarithromycin, a key component of triple therapy, is reported in 15-20% of cases globally (World Health Organization, 2023).

A study conducted at the University of Ilorin Teaching Hospital, Kwara State, showed that 32% of patients who underwent endoscopy for dyspeptic symptoms had peptic ulcers (Ogunbileje & Oyewole, 2010). The prevalence of *H. pylori* infection among patients with PUD in the region was found to be 78%, indicating a strong correlation between *H. pylori* and PUD. The study revealed a higher prevalence of PUD among males (60%) compared to females (40%). The age group most affected was 30-50 years, accounting for about 45% of cases, suggesting that PUD significantly impacts the economically active population. Approximately 25% of PUD patients reported regular use of NSAIDs, about 20% of patients with PUD were smokers, and 15% had a history of alcohol consumption. Patients treated with the standard triple therapy (PPI, clarithromycin, and amoxicillin) for *H. pylori* eradication had a 90% success rate. However, there were concerns about the recurrence rate, with about 15% of patients experiencing relapse within one year, likely due to reinfection or incomplete eradication (Ilorin Medical Journal, 2022). In the United States, the prevalence of self reported

physician-diagnosed peptic ulcer disease was 10% in 1990, and the approximate incidence is about 500,000 new cases per year (Lee & Feldman, 2024).

Overall, however, the risk of mortality and need for hospitalizations due to PUD has been decreasing worldwide. This is most likely secondary to a decline in *Helicobacter pylori* (*H. pylori*) infections due to treatment and improved hygiene. Increased use of prescription and over-the-counter acid-suppressing medications and greater caution with non-steroidal anti-inflammatory drugs (NSAIDs) may account partially for this trend as well (Expert Opinion on Drug Safety, 2017).

In Nigeria, PUD management faces significant hurdles due to healthcare disparities, particularly between urban and rural areas. Rural residents often experience limited access to specialized healthcare facilities and medical professionals, leading to a reliance on traditional remedies (Ogunwale et al., 2021). This delay in seeking conventional treatment can exacerbate the disease. Furthermore, there's a notable lack of comprehensive health education concerning PUD, especially regarding the role of *H. pylori* infection, which is a major contributor to its prevalence (Ndubuisi & Eze, 2020; MedRxiv, 2024). In Kenya, similar challenges are observed. The prevalence of *H. pylori* infection is high in both urban and rural populations. While specific statistics directly comparing PUD incidence between urban and rural areas in Kenya are not readily available, the high prevalence of *H. pylori* in both settings suggests a widespread burden of PUD. For example, a study in Nakuru, Kenya, found *H. pylori* seropositivity in 71% of dyspeptic patients and 51% of asymptomatic individuals, with the association between *H. pylori* and dyspepsia remaining after adjusting for urban or rural residence (Pounder & Ng, 2007). Other data indicate a high overall prevalence of *H. pylori* in Kenya, with rates of 60% by age 10 and 80% by age 15, and up to 95% in adults (EANSO Journals, 2022). This widespread infection, irrespective of urban or rural

dwelling, underscores the pervasive nature of the risk factor for PUD across the country. Access to diagnostic facilities is limited in rural areas, contributing to delayed diagnoses and higher rates of complications like gastrointestinal bleeding and perforation (Muthike & Gitau, 2019).

South Africa, while having more developed healthcare systems than many other subSaharan countries, faces its own challenges with PUD. The disease is prevalent among lower socioeconomic groups, who often have poor access to healthcare services. There is a high reliance on over-the-counter medications, including NSAIDs, which contribute to PUD development. Studies suggest that improving awareness of the risks associated with these medications and encouraging proper medical consultation could reduce the PUD burden in the country (Meyers et al., 2020). The lack of widespread screening programs and adequate healthcare infrastructure further complicates the situation. Many patients only seek medical attention when symptoms become severe, increasing the likelihood of complications (Nyarko et al., 2022). This late presentation is a common challenge in resource-limited settings across Africa, where patients often present with advanced complications such as perforation, bleeding, or gastric outlet obstruction, which require emergency surgery and are associated with higher mortality rates (Peiffer et al., 2020). For example, a study in a semi-urban tertiary hospital, though not specifically in Ghana, highlighted that the majority of patients with perforated PUD presented after 24 hours, leading to increased likelihood of fluid loss, intra-abdominal infection, and shock (Bamisile & Osinowo, 2022). A nationwide study conducted in Nigeria indicated that PUD affects approximately 10% of the Nigerian population at some point in their lives. The prevalence of *H. pylori* in the general population was reported to be between 70-90% depending on the region, with higher rates in rural areas. The most common complication of PUD in Nigeria is upper gastrointestinal bleeding,

with a hospital based study reporting a 15-20% incidence among patients with PUD; perforation rates were reported at 2-5%, which is lower but still significant, especially in settings with delayed medical intervention. Studies highlight that 60% of PUD cases in Nigeria are diagnosed only after complications have developed, largely due to poor healthcare access and limited awareness (Nigerian Gastroenterological Society, 2021). Although Nigeria has made strides in managing PUD through medical interventions, challenges remain in terms of access to healthcare and education. Many Nigerians, especially those in rural areas, lack adequate knowledge about the causes and prevention of PUD, particularly regarding the role of *H. pylori* infection. This lack of awareness often leads to delayed diagnosis and treatment, increasing the likelihood of complications such as perforation, bleeding, and recurrent ulcers (World Life Expectancy, 2023).

1.1 Statement of The Problem

Peptic ulcer disease (PUD) remains a significant global health concern, with a notable burden on various populations worldwide. In 2019, there were approximately 8.09 million prevalent cases globally, representing a 25.82% increase from 1990. This increase highlights the persistence of PUD, despite a general downward trend in age standardized prevalence rates over recent decades (Xie et al., 2022; Ren et al., 2022). The global age-standardized prevalence in 2019 was 99.40 per 100,000 population, down from 143.37 per 100,000 in 1990. Despite this, the global burden remains significant, especially as risk factors like non-steroidal anti-inflammatory drug (NSAID) use continue to contribute to PUD prevalence (Xie et al., 2022; BMC Gastroenterology, 2022).

In Sub-Saharan Africa, PUD is also a notable health issue. Regional data suggest that

while there is a general decline in mortality and disability-adjusted life years (DALYs) due to PUD, the condition is still prevalent due to factors such as *H. pylori* infection and the widespread use of NSAIDs. In Nigeria, studies indicate that PUD is highly prevalent, particularly in rural areas where access to healthcare and proper diagnostic tools are limited (Adeniyi et al., 2021). Furthermore, lifestyle factors such as diet and stress levels contribute to the ongoing burden.

In Kwara State, Nigeria, although localized data on PUD are limited, anecdotal evidence suggests that the prevalence mirrors national trends. The state's healthcare system continues to face challenges in managing PUD due to factors such as late presentations and self-medication practices, which often complicate cases. Efforts to reduce the burden of PUD in Nigeria, including Kwara State, must focus on increasing awareness, improving early diagnosis, and promoting proper management protocols (Xie et al., 2022; Adeniyi et al., 2021).

The increasing prevalence of peptic ulcer disease (PUD) among young adults raises concerns about their knowledge of its prevention and management. At Thomas Adewumi University, Oko, Kwara State, there is limited data on students' understanding of PUD. This study aims to assess the knowledge levels of students across different faculties and academic years regarding the causes, prevention, and management of peptic ulcers. The study will identify gaps in awareness and propose interventions to enhance health literacy. The research will be conducted within a six month period to provide timely insights for improving students' health outcomes.

1.2 Objectives of the study

The general objective of the study is to assess the knowledge on the prevention and management of peptic ulcer amongst students of Thomas Adewumi University, Oko.

The specific objectives are:

1. To assess the knowledge of prevention of peptic ulcer amongst the students of Thomas Adewumi University oko.
2. To determine the level of knowledge of the students of Thomas Adewumi University Oke about the management of peptic ulcer diseases.
3. To assess the effect of compliance with the management and treatments of peptic ulcer amongst students of Thomas Adewumi University.

1.3 Significance of the study

Globally, PUD remains a substantial health burden. In 2019, there were approximately 8.09 million prevalent cases of PUD worldwide, marking a 25.82% increase from 1990 (Xie et al., 2022; Ren et al., 2022). While the age-standardized prevalence rates have shown a general downward trend, the absolute number of cases continues to rise, highlighting the persistence of the disease (Xie et al., 2022). The global prevalence of peptic ulcer ranges from 0.12% to 1.5%, with an annual incidence estimated at 0.3% to 1.9% (Frontiers, 2025). The primary causes are well-established: infection with *Helicobacter pylori* (*H. pylori*) and the long-term use of non-steroidal anti-inflammatory drugs (NSAIDs) (Mayo Clinic, 2024).

In Nigeria, PUD management is significantly hindered by pronounced healthcare disparities between urban and rural populations. Many rural residents face limited access to specialized healthcare and often resort to traditional remedies, which can delay effective, evidence-based treatment (Ogunwale et al., 2021). This challenge is compounded by inadequate health education regarding the causes and prevention of PUD, particularly concerning *H. pylori* infection, which is a major factor in the

disease's prevalence (Ndubuisi & Eze, 2020; MedRxiv, 2024). Studies in Nigeria indicate a high prevalence of *H. pylori* infection, with rates among individuals with peptic ulcers varying between 50% and 90% (RSIS International, 2025). Knowledge about PUD etiology, including *H. pylori*, symptoms, and treatment, is often poor among the general population; for example, one study found that only 0.3% of respondents knew *H. pylori* as a cause of PUD (ResearchGate, 2021).

Specifically within Kwara State, a study conducted at the University of Ilorin Teaching Hospital revealed that 32% of patients undergoing endoscopy for dyspeptic symptoms had peptic ulcers (Ogunbileje & Oyewole, 2010). Furthermore, research focusing on students in Kwara State highlighted a concerning knowledge gap: while 78% of respondents had heard about PUD, only 0.3% correctly identified *H. pylori* as a cause, and only 17.3% believed that drugs could effectively treat PUD (ResearchGate, 2021). This underscores the urgent need for enhanced health education initiatives in the region. The issue of peptic ulcer disease is a worldwide concern because of the high-risk exposure to the causative agents, therefore, this research work is of significance as it would help to reignite the knowledge of the students of the management and prevention of peptic ulcer.

1.4 Research Questions

- 1) What is the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oke?
- 2) What factors contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oke? □
- 3) How does compliance with management and treatment protocols affect peptic ulcer disease outcomes among students at Thomas Adewumi University, Oke?

1.5 Research hypotheses

Null Hypotheses

1. There is no statistically significant difference in the level of knowledge about peptic ulcer disease prevention among students at Thomas Adewumi University, Oke.
2. Lifestyle factors, including dietary habits, perceived stress levels, and self medication practices, do not have a statistically significant association with the occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oke.
3. There is no significant relationship between compliance with management and treatment protocols and the outcomes of peptic ulcer disease among students at Thomas Adewumi University, Oke.

Alternative Hypotheses

1. There is a significant difference in the level of knowledge regarding the prevention of peptic ulcer disease among students across different academic years at Thomas Adewumi University, Oke.
2. Lifestyle factors, such as diet, stress, and self-medication, significantly contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oke.
3. Higher compliance with management and treatment protocols is significantly associated with better outcomes in the management of peptic ulcer disease among students at Thomas Adewumi University, Oke.

1.6 Scope of the study

The scope of the study is delimited to students in Thomas Adewumi University Oke.

1.7 Operational Definition of Terms

Assessment: refers to the process of evaluating students' understanding and awareness regarding the prevention and management of peptic ulcers.

Knowledge: is defined as the information that students possess about peptic ulcer prevention and management.

Prevention: refers to the strategies and practices aimed at reducing the risk of developing peptic ulcers. This includes lifestyle changes, dietary adjustments, and avoidance of known risk factors.

Management: - refers to the methods and approaches used to treat and control peptic ulcers once they occur.

Peptic Ulcers: - are defined as sores or lesions that develop on the lining of the stomach, small intestine, or esophagus due to the erosion caused by stomach acid.

Students: - refers to individuals enrolled at Thomas Adewumi University, Oko, who are participating in the research. This group includes undergraduates from various academic disciplines.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction.

This chapter will focus on the conceptual review, empirical review, theoretical review and on the knowledge on prevention and management of peptic ulcer among students of Thomas Adewumi University, Oko, Kwara State.

2.1. Conceptual Review.

In this conceptual review, the key concepts central to understanding the knowledge on prevention and management of peptic ulcer among students of Thomas Adewumi University, Oko, Kwara State. The review will focus on several foundational ideas that shape the research, including the Historical background of peptic ulcer, causes, treatment, pathophysiology, diagnosis, proper lifestyle modification.

2.1.1 Historical Background

The medical exploration of peptic ulcers dates back to the 19th century, when researchers initially attributed ulcers to excessive stomach acidity. The "acidity hypothesis" suggested that the breakdown of the stomach or duodenal lining was due to the corrosive effects of gastric juices. Early treatment efforts, both surgical and pharmacological, aimed to reduce stomach acidity, reflecting a mono-causal understanding of the disease. (Radomski et al, 2021). During the early 20th century, peptic ulcer research focused largely on controlling gastric acid production, and treatments such as antacids were widely used.

A major breakthrough in the history of PUD occurred in the 1980s with the discovery of *Helicobacter pylori* by Australian researchers Barry Marshall and Robin Warren. This finding revolutionized the understanding of peptic ulcer disease, which

was no longer seen solely as a result of excessive stomach acid. The bacterial hypothesis proposed that *H. pylori* infection played a central role in ulcer formation, particularly for duodenal ulcers. This discovery transformed treatment strategies, with antibiotics becoming a mainstay in peptic ulcer management alongside proton pump inhibitors (PPIs) (Sverdén et al. (2019).

2.1.2 Causes of Peptic Ulcer Disease

One of the most significant causes of peptic ulcers is infection with the bacterium *Helicobacter pylori* (*H. pylori*). This microorganism is known to disrupt the mucosal layer that shields the stomach lining from corrosive stomach acid, allowing the acid to create ulcers. Approximately 70-90% of peptic ulcers are associated with *H. pylori* infection, making it one of the leading risk factors globally (Chey et al., 2017).

Another major cause of peptic ulcers is the prolonged use of nonsteroidal anti-inflammatory drugs (NSAIDs), such as aspirin, ibuprofen, and naproxen. NSAIDs reduce the production of prostaglandins, which play a crucial role in protecting the stomach lining. As prostaglandins decrease, the stomach becomes more vulnerable to the corrosive effects of stomach acid, leading to ulcer formation. NSAID-induced ulcers are particularly common among older adults who use these medications for chronic pain relief or other conditions (Lanas & Chan, 2017).

Excessive alcohol consumption and smoking also contribute to the development of peptic ulcers. Alcohol irritates and erodes the stomach lining, increasing the stomach's production of acid, while smoking inhibits the production of bicarbonate, a substance that neutralizes stomach acid. Both habits can aggravate existing ulcers and impair the healing process. Individuals who smoke or consume large amounts of alcohol are more prone to recurrent ulcers (Sonnenberg, 2018).

Stress and diet were once thought to be primary causes of peptic ulcers, but current research shows that while they can exacerbate symptoms, they are not direct causes. However, in some cases, high levels of psychological stress may affect the body's ability to heal ulcers and contribute to delayed recovery (Surawicz, 2019).

2.1.3 Treatment and Etiology of Peptic ulcer disease

1. Eradication of *Helicobacter pylori*

For patients whose peptic ulcers are caused by *Helicobacter pylori* (*H. pylori*), the primary goal of treatment is to eradicate the infection. The standard approach is combination therapy, typically involving a proton pump inhibitor (PPI) and two antibiotics, such as clarithromycin and amoxicillin or metronidazole, for 10-14 days. This triple therapy has been shown to be effective in eradicating *H. pylori* in most patients (Malfertheiner et al., 2017). Successful eradication leads to a significantly lower risk of ulcer recurrence.

2. Acid Suppression Therapy

Acid suppression is an essential component in the treatment of PUD, as it helps to reduce gastric acid production, thereby allowing ulcers to heal. Proton pump inhibitors (PPIs) like omeprazole, lansoprazole, and esomeprazole are the most commonly used medications for this purpose. These drugs are more effective than H₂-receptor antagonists like ranitidine and famotidine in promoting ulcer healing and maintaining remission (Savarino et al., 2018). Acid suppression therapy is particularly crucial for patients who use NSAIDs, as it protects against the ulcerogenic effects of these drugs.

3. Discontinuation or Modification of NSAID Use

For patients whose peptic ulcers are induced by NSAID use, discontinuing the NSAID or switching to a less harmful medication is a critical step. If discontinuation is not possible due to medical necessity, combining the NSAID with a PPI or misoprostol can help reduce the risk of further ulcer formation (Laine et al., 2016). Misoprostol, a synthetic prostaglandin, helps protect the gastric lining from acid damage but is less commonly used due to its side effects, such as diarrhea.

4. Lifestyle Modifications

Although medications are the cornerstone of peptic ulcer treatment, lifestyle modifications can support the healing process and prevent recurrence. Patients are advised to avoid smoking, excessive alcohol consumption, and foods that may irritate the stomach lining, such as spicy or acidic foods. Reducing stress and following a balanced diet can also contribute to better overall digestive health (Lanas & Chan, 2017).

5. Surgical Intervention

In rare cases where complications such as perforation, bleeding, or obstruction occur, or when ulcers fail to heal with medical therapy, surgical intervention may be necessary. Procedures such as vagotomy (cutting the vagus nerve to reduce acid secretion) or partial gastrectomy (removal of part of the stomach) may be employed in severe cases (Sonnenberg, 2019).

2.1.4 Pathophysiology of Peptic Ulcer Disease

Mechanisms of Mucosal Injury

The injury to the gastric and duodenal mucosa occurs through various mechanisms. *H. pylori* infection leads to an inflammatory response, resulting in gastritis, which can disrupt the protective mucosal barrier (Klein & Sweeney, 2021).

Acid Secretion and Ulcer Formation

In PUD, there is often an increase in gastric acid secretion, particularly in patients with duodenal ulcers. This hypersecretion can be attributed to several factors, including increased gastrin levels and enhanced vagal stimulation (Lanas & Chan, 2017). The excess acid not only contributes to ulcer formation but also impairs the healing of existing ulcers. In addition to gastric acid, pepsin, an enzyme that digests proteins, further aggravates mucosal injury, especially in the presence of an impaired mucosal barrier.

Genetic and Environmental Factors

Genetic predisposition also plays a role in the pathophysiology of PUD. Some individuals may inherit traits that predispose them to increased acid production or decreased mucosal defense mechanisms (Bae et al., 2018). Environmental factors, such as stress and diet, may also contribute to the development of PUD, although their roles are less well-defined compared to *H. pylori* and NSAIDs.

2.1.5 Diagnosis of Peptic Ulcer

Clinical Evaluation: The initial step in diagnosing PUD involves a comprehensive clinical evaluation, including a detailed medical history and physical examination. Patients typically present with symptoms such as epigastric pain, bloating, nausea, and dyspepsia. The pain is often described as a burning sensation that may be relieved by eating or by the use of antacids (Targownik et al., 2019). It is important for healthcare providers to differentiate between PUD and other gastrointestinal disorders, as many

symptoms may overlap with conditions such as gastroesophageal reflux disease (GERD) or gallbladder disease.

Laboratory Tests: Laboratory tests play a crucial role in diagnosing PUD. A key component is the detection of *Helicobacter pylori* (*H. pylori*) infection, which is present in the majority of peptic ulcer cases. Several methods are available for this purpose:

Serological Testing: Blood tests can detect antibodies against *H. pylori*; however, they may not distinguish between current and past infections (Malfertheiner et al., 2017).

Urea Breath Test (UBT): This non-invasive test measures the presence of *H. pylori* by analyzing the patient's breath after ingestion of a urea solution. The bacteria metabolize urea, producing carbon dioxide that can be detected in the breath (Malfertheiner et al., 2017).

Stool Antigen Test: This test detects *H. pylori* antigens in stool samples, providing a reliable indication of active infection (Malfertheiner et al., 2017).

Endoscopy with Biopsy: Upper gastrointestinal endoscopy remains the gold standard for directly visualizing ulcers and obtaining tissue samples. Biopsies can be tested for *H. pylori* and also assessed for any dysplastic changes, which are important for ruling out malignancy (Browning et al., 2020).

Imaging Studies: While imaging studies are not routinely used to diagnose PUD, they may be indicated in certain situations. For instance, a barium swallow study can help visualize ulcers in the stomach or duodenum, although it is less sensitive than endoscopy (Friedman et al., 2018). In cases where complications such as perforation or obstruction are suspected, abdominal ultrasound or computed tomography (CT) scans can provide useful information regarding the severity and extent of disease (Sung et al., 2018).

2.1.6 Proper Lifestyle Modifications

Making appropriate changes to your diet, lifestyle, and care routine can help prevent the development of peptic ulcers and support a prompt recovery while preventing complications. It's important to follow certain dietary and lifestyle measures such as thoroughly chewing and swallowing food, eating slowly and calmly to aid digestion, consuming an oil-free diet to reduce strain on the stomach and intestines, having frequent small meals to reduce stomach acid, drinking water before and after meals, eating a balanced diet at regular intervals, and incorporating fiber-rich foods like fruits and green vegetables for better digestion and overall health.

In terms of the respondents' understanding of PUD treatment, the majority (64.2%) considered eating on time as the remedy, while only 17.3% believed that taking medication was the solution. For the purposes of this research, the institutions within the polytechnic were categorized as Science-based and Non-Science based. The type of course studied (whether science-based or non-science based) was found to be the only significantly correlated factor with PUD awareness. A significantly higher percentage of Science-based students (92.1%) had prior knowledge of PUD compared to non-Science based students. A binary logistic regression was conducted to determine if this factor could predict prior knowledge of PUD. The logistic regression model showed a good fit at $2 \div (1) = 4.87$. Hence, through Homoeopathic treatment permanent relief from peptic ulcer can be achieved, ulcers take time to heal, so medicines should be continued for long time, even if the pain goes away, homoeopathy aids in eradicating the ulcer even without the need of surgery (Dhaval Jadav 2020).

2.2 Empirical Review

This section examines the body of research on student knowledge assessments on the treatment and avoidance of peptic ulcer disease. An investigation was conducted to evaluate students' understanding of the origins, symptoms, and prevention of peptic

ulcer disease at Kwara State Polytechnic in Ilorin, north central Nigeria, a post-secondary educational institution. 300 pupils in all were chosen from the school using a multistage sampling technique. The curriculum comprises five institutes: Information and Communications Technology, Finance and Management, Environmental Sciences, Applied Sciences, and Technology. With a male to female ratio of 1.24:1, out of the 300 respondents, 134 (44.7%) were female and 166 (55.3%) were male. The largest percentage of respondents (161; 53.3%) were in the age range of 21 to 30 years.

Of the pupils, 66 (22.0%) had never heard of PUD before, whereas 234 (78.0%) had. Eighty-five respondents (83.3%) correctly answered that PUD is an intestinal and stomach disease; forty (13.3%) believed it to be a cardiac condition; six (2.0%) believed it to be a lung condition; and four (1.3%) believed it to be a brain condition. Regarding respondents' understanding of PUD symptoms, 185 (61.7%) thought that upper abdominal pain was a symptom, 136 (45.4%) thought that lower abdominal pain was a symptom, 130 (43.3%) thought that peril-umbilical pain was a symptom, and 32.3% thought that fever was a symptom. The majority of respondents (81.0%) said that extended fasting was the primary cause of PUD; further replies included ingestion of spicy foods (54.3%), tobacco usage (52.3%), alcohol use (50.7%), drug use (44.7%), genetic susceptibility (33.3%), and *H. pylori* infection (0.3%), "spiritual reasons" (18.0%), eating early (13.3%), and herbal mixture (25.7%) were noted. It is noteworthy to mention that each respondent provided different responses.

In terms of the respondents' understanding of PUD treatment, the majority (64.2%) considered eating on time as the remedy, while only 17.3% believed that taking medication was the solution. For the purposes of this research, the institutions within the polytechnic were categorized as Science-based and Non-Science based. The type of course studied (whether science-based or non-science based) was found to be the only

significantly correlated factor with PUD awareness. A significantly higher percentage of Science-based students (92.1%) had prior knowledge of PUD compared to non-Science based students. A binary logistic regression was conducted to determine if this factor could predict prior knowledge of PUD. The logistic regression model showed a good fit at $2 \div (1) = 4.87$. The model explained only 24% ² (Nagelkerke R) of the variance in the prior knowledge of PUD based on whether the students studied Science-based or non-Science-based courses. Science students were twice as likely as non-Science students to have had a prior knowledge of PUD (Odds Ratio (OR) 1.98, CI: 1.054-3.717, P=0.032) (Bojuwoye2021).

In another study conducted by Perez Quartey to assess the level of knowledge was assessed, the study participants were 48 (33 males and 15 females) final-year Physician Assistantship students and 88 (28 males and 60 females) final-year Nursing students. The results showed that the overall mean knowledge among the students was 64.0% for Physician Assistantship students and 53.5% among the Nursing students. The results also showed that in terms of proportions, 18 (37.5%) had “Good or adequate” knowledge, 25 (52.0%) had “average or moderate” knowledge whilst 6 (12.5%) had “poor” knowledge in the Physician Assistantship class. In the Nursing class, 8 (9.0%) had “Adequate” knowledge, 69 (78.4%) had “average or moderate” knowledge whilst 11 (12.5%) had “poor” knowledge. The results showed that majority of the students had moderate level of knowledge on the specific parameters of PUD in the questionnaire. The only exception was in the area of pathophysiological differentiation between gastric ulcer and duodenal ulcer (mean knowledge was 41.0% and 36.0% among Physician Assistantship and Nursing students respectively)(Perez Quartey et al 2020). An investigation at a college in Shimla, Himachal Pradesh, India, conducted by Dr Mohammed examined students' understanding of peptic ulcers and their prevention.

The findings indicated that 47.5% of students possessed a moderate level of knowledge, 18.5% had good knowledge, 0.5% had excellent knowledge, and 33.5% had poor knowledge. Furthermore, compared to individuals with a negative history, 23.6% of those with a history of *H. pylori* infection had strong knowledge. The level of knowledge among patients was significantly higher in individuals with a family history of peptic ulcers (29.8% compared to 14.5% in those without). Moreover, there was a substantial correlation between medication awareness and disease awareness among 39.4% of all patients ($P=.001$) (Dr. Mohammed 2020).

An investigation at a college in Shimla, Himachal Pradesh, India, examined students' understanding of peptic ulcers and their prevention. The findings indicated that 47.5% of students possessed a moderate level of knowledge, 18.5% had good knowledge, 0.5% had excellent knowledge, and 33.5% had poor knowledge. The mean score of 15.87 ± 4.082 suggested that almost 50% of individuals had some understanding of peptic ulcers and their prevention. Teenagers obtained the highest score (50.89%) in peptic ulcer prevention, based on area-wise analysis, with a mean and standard deviation of 4.58 ± 1.56 . The study's findings indicated that adolescents have a moderate level of knowledge regarding prevention of peptic ulcers (Rajan 2019).

In a separate study conducted in Southern Nigeria, 315 (64.2%) of the 491 individuals who responded to the survey were in the ≤ 40 age range, 257 (52.3%) were men, and 415 (84.5%) had some formal education. The knowledge score with a maximum of 10 was 5.5 ± 2.3 as the mean (SD) overall. Of those who participated, only 172 (35.0%) had a solid understanding of PUD. 327 people (66.6%) thought PUD was a very dangerous illness. Furthermore, there was a high degree of stigma associated with PUD patients; 372 (75.8%) of the participants had empathy for them and wanted to support them, 77 (15.7%) had empathy but avoided them, and 53 (10.8%) were afraid they would spread

the illness to them. Ethnicity and formal education were independent factors good knowledge of PUD. (Nwafor 2019).

2.3 Theoretical Review

The health belief model (HBM) is a model used to explain and predict health-related behaviors, especially the use of health services. It also encompasses an individual's beliefs about disease prevention, health maintenance, and well-being. Developed by social psychologists in the 1950s at the U.S. Public Health Service, it is one of the most well-known and commonly used theories in health behavior research. According to the HBM, people's beliefs about health issues, perceptions of the benefits and barriers to acting, and their self-efficacy determine whether they engage in health-promoting behaviors. Additionally, a stimulus or cue to action is necessary to trigger health-promoting behaviors.

The Model categorizes and arranges interventions based on four components of this evaluation: the individual's perception of susceptibility to illness or risk, their perception of the severity of illness, their perception of the benefits of behavior change, and their perceived barriers to acting. Additionally, Health Belief researchers introduced the concept of self-efficacy as a contributing factor in health-related decision-making (Edward et al 2020).

An individual assesses the severity of a disease by considering the illness itself and the potential future implications it may have for them. The concept of perceived susceptibility relates to an individual's belief about their likelihood of developing a certain condition. Each person has their own level of acceptance regarding the possibility of contracting an illness some deny the possibility entirely, while others genuinely feel at risk. The decisions made by an individual are heavily influenced by

their beliefs about available options. If an option is accessible and can either reduce the likelihood of contracting a disease or minimize its severity, it is seen as advantageous. However, if the option is perceived as beneficial but also inconvenient, expensive, or challenging to use, it can have negative implications for the individual's health choices.

Application of the Theory

Perceived Susceptibility: Students believe that they can easily develop peptic ulcer if it is not well prevented and managed. Therefore, they need to receive information explaining how to manage and prevent it.

Perceived Severity: Students believe that not adhering to the preventive measures can cause them to develop peptic ulcer disease and also not adhering to the management techniques making them absent from classes and being unable to attend to their daily activities based on the severity of the disease, it could also affect their social relationship.

Perceived Benefit: Students believed that adhering to the preventive measure will save them from the likelihood of developing the disease and adhering to the management techniques will reduce the risk of having concurrence and it serves as a benefit to them.

Perceived Barriers: It is important to identify the barriers of noncompliance to the preventive measure and management techniques. The presence of carelessness, lack of discipline, lack of display of the preventive measures, not managing the disease condition well have been found to be the barriers influencing noncompliance to the preventive measures and management techniques.

Cues to Action: Student received their knowledge from seminars, schools, colleagues, hospital management, mass media etc. explaining the preventive measures and managing techniques that can be taken to implement it.

Self -Efficacy: Students must believe in their ability to engage in the preventive measures and management techniques. This knowledge serves as guidance and training in the against developing the disease and having concurrence episode of the disease.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction.

This chapter describes the methods and procedures in carrying out assessment of the knowledge of students on the prevention and management of peptic ulcer disease among students of Thomas Adewumi University, Oko, Kwara State. It includes research design, study area, target population, sampling techniques, validity and reliability of instrument.

3.1 Research Design

This research will be carried out using descriptive survey approach aimed at assessing knowledge on the prevention and management of peptic ulcer disease among students of Thomas Adewumi University Oko, Kwara, State.

3.2 Study Setting

This study will be conducted at Thomas Adewumi University, Oko Irese, Irepodun local government, Kwara State. The university was founded by Dr Engr J.B.O Adewumi. The university was licensed by the federal government of Nigeria as a private university on 8th April ,2021 alongside with other 20 private universities. It now has full license in 2024.

The university fully commenced on the 16th of May 2021. It is located off idofin road, irepodun local government, oko irese, kwara state. It has different facilities with over 800 students. It currently has 7 facilities with over 25 academic programme and is still growing.

3.3 Target Population

The target population for this study are the 200 and 500 level nursing students Thomas Adewumi University

3.4 Inclusion Criteria

The inclusion criteria will include;

1. □ 200 level and 500 level Nursing students currently at Thomas Adewumi University.
2. □ Students in 200 and 500 level that are willing to take part in the study.

3.5 Exclusion Criteria

The exclusion criteria will include:

1. Nursing students that are not in 200 level and 500 level currently at Thomas
2. Adewumi University Nurses on leave during the data collection period

- Students in 200 and 500 level that are not willing to take part in the study.

3.6 Sample

The sample size for this study is 101 students in the university.

The sample size was determined using Yamane's formula (1967) for finite populations:

$$n = N / 1 + N(e)^2$$

Where:

N = total population = 135

e = margin of error = 0.061 (6.1%)

n = initial sample size=90

$$n = 135 / 1 + 135(0.061)^2 = 135 / 1 + 13(0.00372) = 135 / 1.502 \approx 90$$

To adjust for a 10% attrition rate, the final sample size was calculated using:

$$\text{Adjusted Sample Size} = n / 1 - r = 91 / 1 - 0.10 = 90 / 0.90 \approx 100$$

Thus, the final sample size adopted for the study was 100 respondents, which ensures representativeness even after accounting for potential non-responses or dropouts.

3.7 Sample Technique

A simple random sampling technique will be employed for the study based on the readily available respondents that are willing to participate. Questionnaires for data collection will be distributed to Thomas Adewumi university students.

3.8 Instrument for Data Collection

The data collection tool will be a self-developed questionnaire comprising of both closed and open-ended questions. The questionnaire consisted of questions.

Section A: - Demographic data

Section B: - Assessment of the students' knowledge on the prevention of peptic ulcer disease

Section C: - Assessment of the students' knowledge on the management of peptic ulcer disease.

3.9 Validity of the instrument

The content validity was established through the Content Validity index (CVI), achieving a score of 0.95. This high CVI indicates that the questionnaire covers all the relevant dimensions of the concepts being measured, reflecting comprehensive and representative item inclusion.

3.10 Reliability of Instrument

Reliability was evaluated using Cronbach's alpha, which yielded values of 0.90 for the knowledge domain and 0.92 for the practice domain. These high alpha values suggest excellent internal consistency, indicating that the items within each domain measure the same underlying construct reliably.

3.11 Method of Collection

A formal letter of introduction was obtained from the Faculty of Nursing and presented to the Vice-Chancellor of Thomas Adewumi University and the Ethical Review Committee on Research. The Ethical Review Committee subsequently granted approval and issued a permission letter, directing the researcher to the Students' Representative Council. Upon engaging with the Students' Representative Council, the researcher conducted a self-introduction to all prospective respondents. The research questions and the study's aim were thoroughly explained to ensure clear understanding. Informed consent was then obtained from each respondent. To ensure confidentiality, respondents were assured that all information provided through the questionnaires would be kept strictly private. The questionnaires were administered, and subsequently retrieved from the respondents on a later, pre-arranged date.

3.12 Method of Data Analysis

The completed questionnaire will be collected and sorted out. The information gathered from the questionnaire will be collated, represented in frequencies tables and figures. Bar chart will be used to interpret the data collected, hypothesis was also tested using chi square inferential statistics.

3.13 Ethical Consideration

An introductory letter will be presented to the Vice-Chancellor of Thomas Adewumi University to obtain formal authorization for the research and facilitate access to the student population. Following the Vice-Chancellor's consent, the research protocol will be submitted to the university's Ethical Review Committee for approval. Confidentiality will be strictly maintained, as all data collected will be used solely for academic purposes.

CHAPTER 4

DATA ANALYSIS AND PRESENTATION OF RESULTS.

4.0 Introduction

This chapter contains the presentation and analysis of data collected from the respondents. The responses were analyzed as follows.

4.1 Section A: Demographic data

Table 4.1: showing frequency distribution of the respondents by demographic characteristics.

Age (in years)	Frequency	Percentage (%)
15-19	33	33%

20-24	41	41%
25-29	26	26%
Total	100	100%
Gender	Frequency	Percentage (%)
Female	66	66%
Male	34	34%
Total	100	100%
Year of study	Frequency	Percentage (%)
Year 2	77	77%
Year 5	23	23%
Total	100	100%

Table 4.1 above shows the frequency distribution of respondents' demographic data. 41% of respondents, falls within the 20-24 years age range it is the largest age group of the respondents. The age group 15-19 group, represents 33% (33 respondents) of respondents. The smallest group, aged 25-29 years, makes up 26% (26 respondents). For the gender, 66% (66 respondents) are female, while 34% (34 respondents) are male. In the year of study, majority of the respondents (77%) are in their 3rd year, while only 23% of respondents are in their 5th year.

4.2 Section B: - Assessment of the students' knowledge on the prevention of peptic ulcer disease.

Table 4.2: Showing frequency distribution of respondent whether they have heard of peptic ulcer disease (pud) before.

Response	Frequency	Percentage
Yes	57	57%
No	43	43%
Total	100	100%

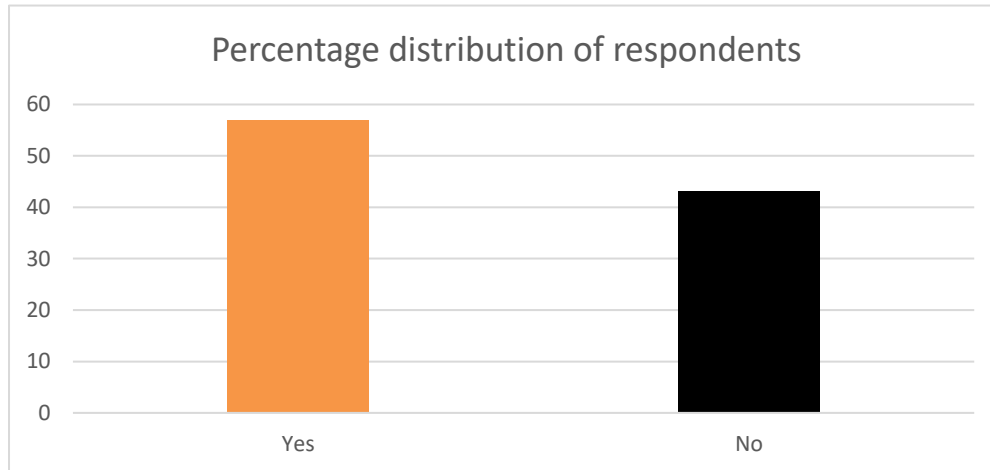


Figure 4.1 Bar chart showing frequency distribution of respondent whether they have heard of peptic ulcer disease (pud) before.

Table 4.2 and figure 4.1 above shows the frequency distribution of respondents whether they have heard of peptic ulcer disease (pud) before. The majority of respondents, 57% said yes, indicating they have heard of pud before. While, 43% responded no, indicating they are unfamiliar with the disease.

Table 4.3: Showing frequency distribution of respondents' knowledge on what they believe are the primary causes of peptic ulcer disease today.

Response	Frequency	Percentage
Excessive alcohol consumption	23	23%
Helicobacter pylori infection	33	33%
Smoking	21	21%
Stress	23	23%

Total	100	100%
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Figure 4.2 pie chart showing frequency distribution of respondents' knowledge on what they believe are the primary causes of peptic ulcer disease today.

Table 4.3 and figure 4.2 shows the frequency distribution of respondents' knowledge regarding what they believe are the primary causes of Peptic Ulcer Disease (PUD) today. Among the respondents, 33% believe that helicobacter pylori infection is a primary cause of PUD, 29% attribute the condition to stress, while 23% identify excessive alcohol consumption as a cause. Additionally, 21% attribute PUD to smoking.

Table 4.4: Showing frequency distribution of respondents on whether they can name any preventive measures for peptic ulcer disease.

Response	Frequency	Percentage
Yes	58	58%
No	42	42%
Total	100	100%

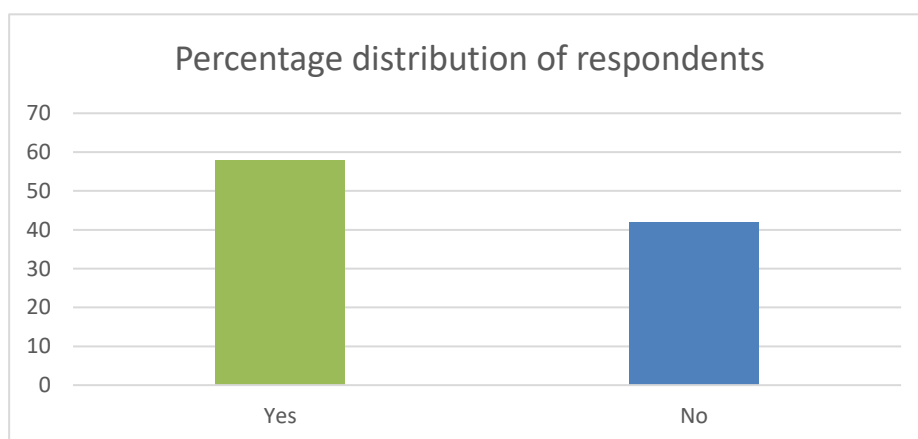


Figure 4.3 Bar chart showing frequency distribution of respondents on whether they can name any preventive measures for peptic ulcer disease.

Table 4.4 and figure 4.3 above shows the frequency distribution of respondents regarding whether they can name any preventive measures for peptic ulcer disease (pud). 58% of respondents said yes that they can name preventive measures, while 42% responded that they cannot.

Table 4.5: Showing frequency distribution of respondents on how familiar they are with the role of Helicobacter pylori in peptic ulcer disease.

Response	Frequency	Percentage
Not familiar	29	29%
Somewhat familiar	36	36%
Familiar	11	11%
Very familiar	24	24%
Total	100	100%

Table 4.5 above presents the frequency distribution of respondents regarding their familiarity with the role of helicobacter pylori in Peptic Ulcer Disease (PUD).

36% of respondents are said they were familiar with the role of helicobacter pylori, while 29% are not familiar. Additionally, 24% of respondents report being very familiar with its role, and 11% consider themselves familiar with the topic.

Table 4.6 showing frequency distribution of respondents on whether they think avoiding certain foods can help prevent peptic ulcers.

Response	Frequency	Percentage
Yes	45	45%
No	55	55%
Total	100	100%

Table 4.6 above shows the frequency distribution of respondents regarding whether they think avoiding certain foods can help prevent peptic ulcers. 45% of respondent said yes, while a majority of 55% said no.

Table 4.7: Showing frequency distribution of respondents on how knowledgeable they are about the impact of smoking on peptic ulcer prevention?

Response	Frequency	Percentage
Not knowledgeable	29	29%
Somewhat knowledgeable	34	34%
Knowledgeable	25	25%
Very knowledgeable	12	12%
Total	100	100%

Table 4.7 above shows the frequency distribution of respondents regarding their knowledge about the impact of smoking on peptic ulcer prevention.

The findings reveal that 34% of respondents consider themselves somewhat knowledgeable about the impact of smoking on peptic ulcer prevention. In contrast, 29% reported being not knowledgeable at all. Additionally, 25% of respondents feel knowledgeable, while 12% consider themselves very knowledgeable.

Table 4.8: Showing frequency distribution of respondents on what they know about the relationship between alcohol consumption and peptic ulcer prevention.

Response	Frequency	Percentage
Not knowledgeable	25	25%
Somewhat knowledgeable	28	28%
Knowledgeable	11	11%
Very knowledgeable	36	36%
Total	100	100%

Table 4.8 above shows the frequency distribution of respondents regarding what they know about the relationship between alcohol consumption and peptic ulcer prevention.

The results indicate that 36% of respondents consider themselves very knowledgeable about the relationship between alcohol consumption and peptic ulcer prevention. In

addition, 28% of respondents are somewhat knowledgeable on the topic, while 25% reported being not knowledgeable at all. Only 11% of respondents feel knowledgeable.

Table 4.9: Showing frequency distribution of respondents on how well they understand the impact of stress on developing peptic ulcers.

Response	Frequency	Percentage
Not familiar	35	35%
Somewhat familiar	25	25%
Familiar	15	15%
Very familiar	25	25%
Total	100	100%

Table 4.9 above shows the frequency distribution of respondents regarding how well they understand the impact of stress on developing peptic ulcers. The table reveals that 35% of respondents are not familiar with the impact of stress on peptic ulcer development. Meanwhile, 25% consider themselves somewhat familiar with the topic. Additionally, 25% of respondents feel very familiar, while 15% report being familiar with the relationship between stress and peptic ulcers

Table 4.10: Showing frequency distribution of respondents on whether they are aware of any over-the-counter medications that can affect peptic ulcer prevention.

Response	Frequency	Percentage
Yes	50	50%
No	50	50%
Total	100	100%

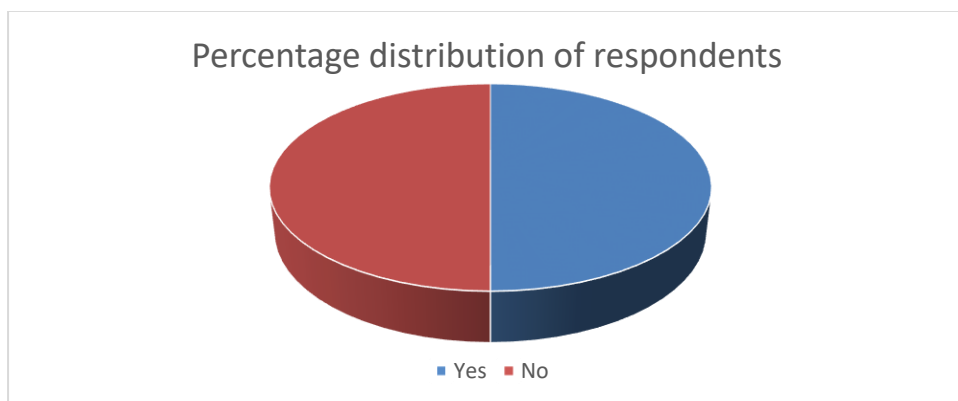


Figure 4.4 Pie chart showing frequency distribution of respondents on how well they understand the impact of stress on developing peptic ulcers.

Table 4.10 and figure 4.4 above shows the frequency distribution of respondents regarding whether they are aware of any over-the-counter medications that can affect peptic ulcer prevention. The table reveals that 50% of respondents said yes, while an equal 50% said no they are not aware of any over-the-counter medications that can affect peptic ulcer prevention.

Table 4.11: Showing frequency distribution of respondents' knowledge on how effective they believe lifestyle changes are in preventing peptic ulcers.

Response	Frequency	Percentage
Not effective	16	16%
Somewhat effective	17	17%
Effective	27	27%
Very effective	40	40%
Total	100	100%

Table 4.11 above shows the frequency distribution of respondents' knowledge on how effective they believe lifestyle changes are in preventing peptic ulcers.

The table reveals that 40% of respondents believe that lifestyle changes are very effective in preventing peptic ulcers. Additionally, 27% consider them to be effective, while 17% feel they are somewhat effective. Conversely, 16% of respondents believe that lifestyle changes are not effective at all.

Table 4.12: Showing frequency distribution of respondents' knowledge on what the standard treatments for peptic ulcer disease they are aware of.

Response	Frequency	Percentage
Antibiotics	10	10%
Proton pump inhibitors (ppis)	7	7%

Antacids	69	69%
Histamine h2 receptor antagonists	19	19%
Total	100	100%

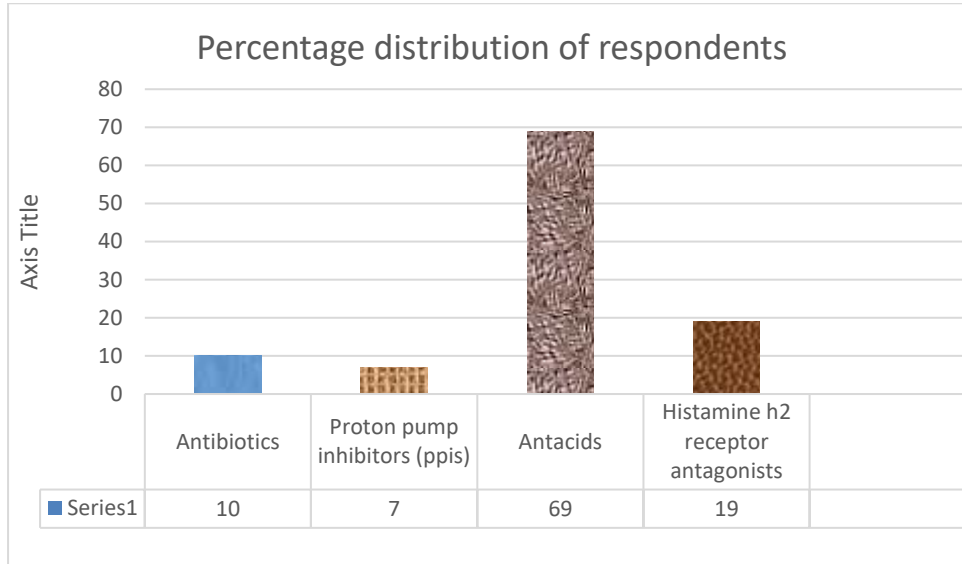


Figure 4.5 Bar chart showing frequency distribution of respondents' knowledge on what the standard treatments for peptic ulcer disease they are aware of.

Table 4.12 and figure 4.5 above shows the frequency distribution of respondents' knowledge regarding the standard treatments for peptic ulcer disease that they are aware of. 69% of respondents identify antacids as a standard treatment for peptic ulcer disease. Additionally, 19% mention histamine h2 receptor antagonists, while 10% attribute awareness to antibiotics. Only 7% of respondents are aware of proton pump inhibitors (ppis) as part of the standard treatments.

Table 4.13: Showing frequency distribution of respondents' knowledge on how familiar they are with the use of proton pump inhibitors (ppis) in treating peptic ulcers.

Response	Frequency	Percentage
Not familiar	28	28%
Somewhat familiar	25	25%

Familiar	16	16%
Very familiar	31	31%
Total	100	100%

Table 4.13 above shows the frequency distribution of respondents' knowledge on how familiar they are with the use of proton pump inhibitors (ppis) in treating peptic ulcers. 31% of respondents are very familiar with the use of ppis, while 16% are familiar. Additionally, 25% are somewhat familiar, and 28% are not familiar with ppis in treating peptic ulcers.

Table 4.14: Showing percentage distribution of respondents on whether they know why it is important to eradicate helicobacter pylori in the treatment of peptic ulcers.

Response	Frequency	Percentage
Yes	48	48%
No	52	52%
Total	100	100%

Table 4.14 above shows the percentage distribution of respondents on whether they know why it is important to eradicate helicobacter pylori in the treatment of peptic ulcers. 52% of respondents said no, while 48% of respondents said yes.

Table 4.15: Showing frequency distribution of respondents whether they are aware of any potential side effects associated with common ulcer medications.

Response	Frequency	Percentage
Yes	39	39%
No	61	61%
Total	100	100%

Table 4.15 above shows the frequency distribution of respondents on whether they are aware of any potential side effects associated with common ulcer medications. the table

reveals that **61%** of respondents are not aware of potential side effects, while **39%** are aware of them.

Table 4.16: Showing frequency distribution of respondents' knowledge on how important they think it is to follow a prescribed medication regimen for peptic ulcers.

Response	Frequency	Percentage
Not important	18	18%
Somewhat important	18	18%
Important	32	32%
Very important	32	32%
Total	100	100%

Table 4.16 above shows the frequency distribution of respondents' knowledge on how important they think it is to follow a prescribed medication regimen for peptic ulcers. 32% of respondents consider following a prescribed medication regimen to be important, while another 32% believe it is very important. Additionally, 18% find it somewhat important, and 18% do not find it important.

Table 4.17: Showing frequency distribution of respondents' knowledge on whether what dietary changes they think are necessary for managing peptic ulcer disease.

Response	Frequency	Percentage
Avoids spicy foods	47	47%
Eat smaller,frequent meals	50	50%
Avoid caffeine	41	41%
Reduce alcohol consumption	34	34%

Percentage distribution of respondents

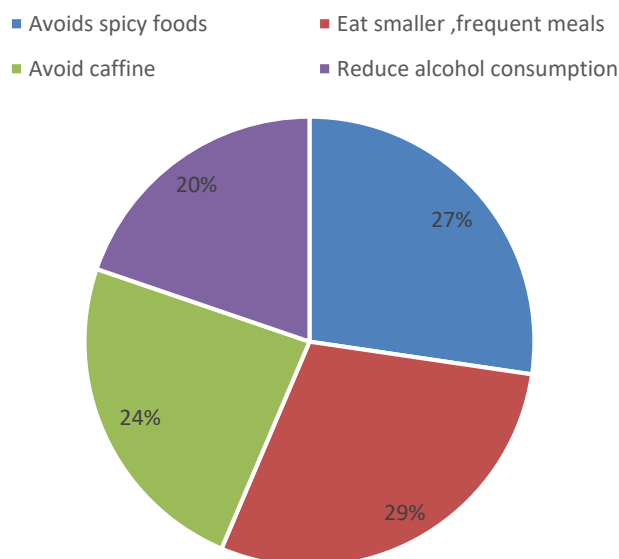


Figure 4.6 Pie chart showing frequency distribution of respondents' knowledge on whether what dietary changes they think are necessary for managing peptic ulcer disease.

Table 4.17 and figure 4.6 above shows the frequency distribution of respondents' knowledge on what dietary changes they think are necessary for managing peptic ulcer disease. It revealed that 50% of respondents believe that eating smaller, frequent meals is necessary, while 47% think avoiding spicy foods is important. Additionally, 41% think avoiding caffeine, and 34% advocate for reducing alcohol consumption.

Table 4.18: Showing frequency distribution of respondents' knowledge on whether they are familiar with the role of antacids in managing peptic ulcers.

Response	Frequency	Percentage
Not familiar	16	16%
Somewhat familiar	14	14%
Familiar	39	39%
Very familiar	31	31%
Total	100	100%

Table 4.18 above shows the frequency distribution of respondents' knowledge on whether they are familiar with the role of antacids in managing peptic ulcers.

The table reveals that 39% of respondents are familiar with the role of antacids, while 31% are very familiar. Additionally, 14% are somewhat familiar, and 16% said they are not familiar.

Table 4.19: Showing frequency distribution of respondents' knowledge on whether they can describe the process for diagnosing peptic ulcer disease.

Response	Frequency	Percentage
Endoscopy	35	35%
Blood test for helicobacter pylori	36	36%
Urea breath test	29	29%
Stool antigen test	42	42%

Figure 4.7 pie chart showing frequency distribution of respondents' knowledge on whether they can describe the process for diagnosing peptic ulcer disease.

Table 4.19 and figure 4.7 above shows the frequency distribution of respondents' knowledge on whether they can describe the process for diagnosing peptic ulcer disease. The table reveals that 36% of respondents can describe a blood test for helicobacter pylori, while 35% mention endoscopy. Additionally, 29% refer to a urea breath test, and 42% state a stool antigen test.

Table 4.20: Showing frequency distribution of respondents on how they think lifestyle modifications affect the treatment of peptic ulcers.

Response	Frequency	Percentage
Not effective	14	14%
Somewhat effective	24	24%
Effective	28	28%
Very effective	34	34%
Total	100	100%

Table 4.20 above shows the frequency distribution of respondents on how they think lifestyle modifications affect the treatment of peptic ulcers. The table shows that 34% of respondents believe that lifestyle modifications are very effective, while 28% think they are effective. Furthermore, 24% find them somewhat effective, and 14% consider them not effective.

Table 4.21: Showing frequency distribution of respondents' knowledge on what long-term management strategies for peptic ulcers they are aware of.

Response	Frequency	Percentage
Regular use of Proton Pump Inhibitors (PPIs)	27	27%
Eradication of Helicobacter Pylori	39	39%
Regular medical check-ups	31	31%
Lifestyle changes (e.g., smoking cessation, dietary changes)	51	51%

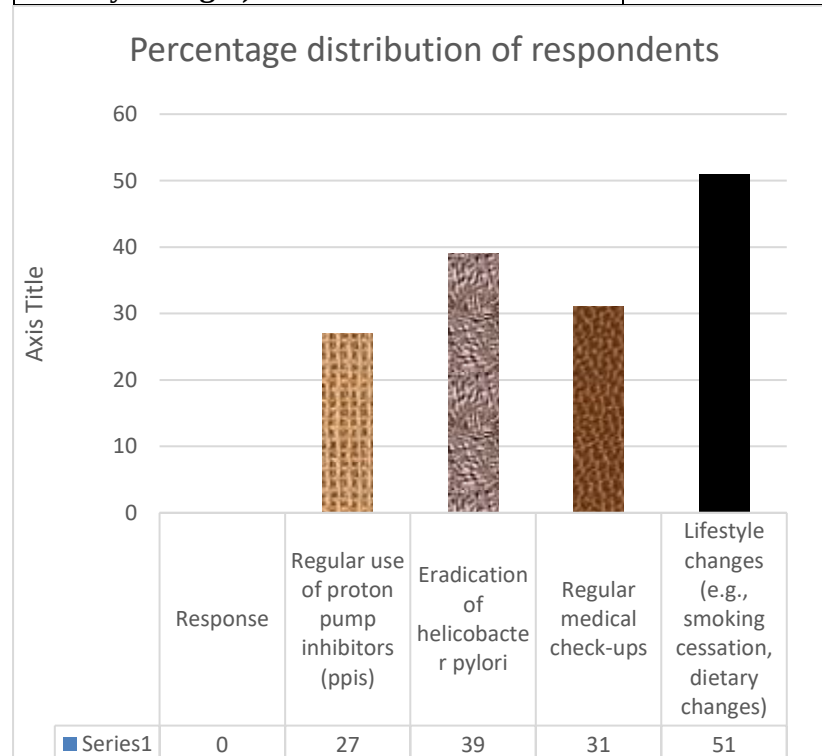


Figure 4.8 bar chart Showing frequency distribution of respondents' knowledge on what long-term management strategies for peptic ulcers they are aware of.

Table 4.21 and figure 4.8 above shows the frequency distribution of respondents' knowledge on what long-term management strategies for peptic ulcers they are aware of. 51% of respondents mention lifestyle changes as a long-term management strategy, while 39% identify eradication of helicobacter pylori. Additionally, 31% reference regular medical check-ups, and 27% state regular use of proton pump inhibitors (ppis).

Table 4.22: Showing frequency distribution of respondents' knowledge on what they think are the main causes of peptic ulcer disease among students in their university.

Response	Frequency	Percentage
Stress	5	5%
Smoking	20	20%
Alcohol consumption	9	9%
Irregular eating habits	30	30%
Use of NSAIDs	31	31%

Table 4.22 above shows the frequency distribution of respondents' knowledge on what they think are the main causes of peptic ulcer disease among students in their university. 31% of respondents believe that the use of NSAIDs is a main cause, followed closely by irregular eating habits at 30%. Additionally, 20% identify smoking as a cause, while 9% and 5% attribute it to alcohol consumption and stress, respectively.

Table 4.23: Showing frequency distribution of respondents' knowledge on how they think dietary habits contribute to the high incidence of peptic ulcers among students.

Response	Frequency	Percentage
Very significant	39	39%
Somewhat significant	31	31%
Not significant	30	30%
Total	100	100%

Table 4.23 above shows the frequency distribution of respondents' knowledge on how they think dietary habits contribute to the high incidence of peptic ulcers among

students. 39% of respondents consider dietary habits to be very significant, while 31% believe they are somewhat significant. Additionally, 30% think they are not significant.

Table 4.24 showing frequency distribution of respondents' knowledge on how significant the role of stress in the development of peptic ulcers among students.

Response	Frequency	Percentage
Very significant	36	36%
Somewhat significant	28	28%
Not significant	36	36%
Total	100	100%

Table 4.24 above shows the frequency distribution of respondents' knowledge on how significant the role of stress is in the development of peptic ulcers among students. 36% of respondents believe the role of stress is very significant, while another 36% think it is not significant. Furthermore, 28% view it as somewhat significant.

Table 4.25: Showing frequency distribution of respondents' knowledge on how they think the use of NSAIDs affects peptic ulcer rates among students.

Response	Frequency	Percentage
Very significant	38	38%
Somewhat significant	32	32%
Not significant	30	30%
Total	100	100%

Table 4.25 above shows the frequency distribution of respondents' knowledge on how they think the use of nsaids affects peptic ulcer rates among students. 38% of respondents believe the use of nsaids has a very significant effect, while 32% find it somewhat significant. Additionally, 30% think it is not significant.

Table 4.26: Showing frequency distribution of respondents' knowledge what impact they believe smoking has on the prevalence of peptic ulcers in their student population.

Response	Frequency	Percentage
Very significant	30	30%
Somewhat significant	40	40%
Not significant	30	30%
Total	100	100%

Table 4.26 above shows showing frequency distribution of respondents' knowledge what impact they believe smoking has on the prevalence of peptic ulcers in their student population? 30 respondents (30%) believe smoking has a very significant impact on the prevalence of peptic ulcers in their student population, while 40 respondents (40%) think it is somewhat significant. Additionally, 30 respondents (30%) believe smoking is not significant.

Table 4.27: Showing frequency distribution of respondents' knowledge on how alcohol consumption is related to the occurrence of peptic ulcers among students.

Response	Frequency	Percentage
Very significant	31	31%
Somewhat significant	41	41%
Not significant	28	28%
Total	100	100%

Able 4.27 above shows the frequency distribution of respondents' knowledge on how alcohol consumption relates to the occurrence of peptic ulcers among students. 41% of respondents consider alcohol consumption to have a somewhat significant impact, while 31% think it is very significant. Additionally, 28% believe it is not significant.

Table 4.28 showing frequency distribution of respondents' knowledge if they are aware of any genetic factors that might contribute to peptic ulcer disease among students.

Response	Frequency	Percentage
Yes	52	52%
No	48	48%
Total	100	100%

Table 4.28 above shows the frequency distribution of respondents' knowledge on whether they are aware of any genetic factors that might contribute to peptic ulcer disease among students. 52% of respondents are aware of genetic factors that may contribute to peptic ulcer disease, while 48% are not aware.

Table 4.29: Showing frequency distribution of respondents' knowledge on how they think irregular eating patterns influence the frequency of peptic ulcers among students.

Response	Frequency	Percentage
Very significant	41	41%
Somewhat significant	34	34%
Not significant	25	25%
Total	100	100%

Table 4.29 above shows the frequency distribution of respondents' knowledge on how they think irregular eating patterns influence the frequency of peptic ulcers among students. 41% of respondents believe irregular eating patterns have a very significant impact, while 34% think they are somewhat significant. Additionally, 25% believe they are not significant.

Table 4.30: Showing frequency distribution of respondents' knowledge on how lack of knowledge about peptic ulcer prevention affect its prevalence among students.

Response	Frequency	Percentage
Very significant	38	38%
Somewhat significant	32	32%
Not significant	30	30%
Total	100	100%

Table 4.30 above shows the frequency distribution of respondents' knowledge on how lack of knowledge about peptic ulcer prevention affects its prevalence among students. 38% of respondents believe that lack of knowledge is very significant, while 32% find it somewhat significant. Additionally, 30% consider it not significant.

Table 4.31 showing frequency distribution of respondents' knowledge on what role they think health education resources play in reducing the incidence of peptic ulcers among students.

Response	Frequency	Percentage
Very significant	30	30%
Somewhat significant	37	37%
Not significant	33	33%
Total	100	100%

Table 4.31 above shows the frequency distribution of respondents' knowledge on what role they think health education resources play in reducing the incidence of peptic ulcers among students. 37% of respondents believe health education resources have a somewhat significant impact, while 30% think they are very significant. Additionally, 33% consider them not significant.

4.3 Answering of Research Questions

Research Question 1: What is the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oke?

Table 4.2 shows that the majority of respondents, 57%, indicated that they have heard of peptic ulcer disease (PUD) before, while 43% responded no, indicating they have not heard of it. Additionally, Table 4.3 reveals that 33% of respondents believe that *Helicobacter pylori* infection is a primary cause of peptic ulcer disease, while 29% attribute the condition to stress. Furthermore, 23% identify excessive alcohol consumption as a cause, and 21% attribute peptic ulcer disease to smoking.

Table 4.4 presents the frequency distribution of respondents regarding whether they can name any preventive measures for peptic ulcer disease. 58% of respondents reported that they can name preventive measures, while 42% indicated that they cannot. Additionally, Table 4.6 shows the frequency distribution of responses to whether the respondents think avoiding certain foods can help prevent peptic ulcers. 45% of respondents answered yes, while a majority of 55% responded no. This indicates a moderate level of awareness regarding the disease and its prevention among the students at Thomas Adewumi University, Oke.

Research Question 2: How knowledgeable are the students of Thomas Adewumi University, Oke, about the management of peptic ulcer disease?

Table 4.12 shows the frequency distribution of respondents' knowledge regarding the standard treatments for peptic ulcer disease. 69% of respondents identify proton pump inhibitors (PPIs) as a standard treatment, indicating a strong awareness of this treatment. Additionally, 19% mention histamine H₂ receptor antagonists, while 10% attribute awareness to antibiotics, and only 7% are aware of antacids as part of the standard treatments. Table 4.13 reveals respondents' familiarity with the use of PPIs in treating peptic ulcers. 31% of respondents are very familiar with the use of PPIs, while 16% are familiar. Furthermore, 25% are somewhat familiar, and 28% are not familiar with PPIs in treating peptic ulcers. Moreover, Table 4.10 shows the frequency distribution of

responses regarding whether respondents are aware of any over-the-counter medications that can affect peptic ulcer prevention. 50% of respondents said yes, while the other 50% said no.

Research Question 3: What factors contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oko?

Table 4.22 shows the frequency distribution of respondents' beliefs regarding the main causes of peptic ulcer disease among students. 31% of respondents believe that the use of NSAIDs is a primary cause, followed closely by irregular eating habits at 30%. Additionally, 20% identify smoking as a cause, while 9% attribute it to alcohol consumption and 5% to stress. Table 4.23 shows the frequency distribution of respondents' beliefs regarding how dietary habits contribute to the high incidence of peptic ulcers among students. 39% of respondents consider dietary habits to be very significant, while 31% believe they are somewhat significant. Furthermore, 30% think they are not significant. Furthermore, Table 4.24 shows the frequency distribution of responses on how significant the role of stress is in the development of peptic ulcers among students. 36% of respondents believe the role of stress is very significant, while another 36% think it is not significant. Additionally, 28% view it as somewhat significant. This indicates that respondents recognize substance use, dietary patterns, and stress as significant contributors to the prevalence of peptic ulcer disease.

Research Question 4: How does compliance with management and treatment protocols affect peptic ulcer disease outcomes among students at Thomas Adewumi University, Oko?

Table 4.16 shows the frequency distribution of respondents' views on the importance of following a prescribed medication regimen for peptic ulcers. 32% of respondents consider it to be important, while another 32% believe it is very important. Additionally,

18% find it somewhat important, and 18% do not find it important. This indicates that a significant portion of respondents recognizes the importance of compliance with treatment protocols in managing peptic ulcer disease. Table 4.20 shows the frequency distribution of respondents' knowledge regarding how they think lifestyle modifications affect the treatment of peptic ulcers. 34% of respondents believe lifestyle modifications are very effective, while 28% think they are effective. Furthermore, 24% find them somewhat effective, and 14% consider them not effective. Moreover, Table 4.30 presents the frequency distribution of respondents regarding how lack of knowledge about peptic ulcer prevention affects its prevalence among students. 38% of respondents believe that lack of knowledge is very significant, while 32% find it somewhat significant. Additionally, 30% consider it not significant. This data suggests that students generally acknowledge the role of compliance with both medication and lifestyle changes in improving outcomes related to peptic ulcer disease.

4.4 Testing of Research Hypotheses

Research hypothesis 1:

Questions	Yes	No	Row total
Have you heard of peptic ulcer before	57	43	100
Can you name any preventive measure of peptic ulcer	58	42	100

Can avoiding certain foods can help prevent peptic ulcers?	45	55	100
Column total	160	140	300

Ho1: There is no significant difference in the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oke.

The table above shows that there is a significant difference in the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oke.

X-cal= (4.205357143) and x-tab= (5.991) at 0.05 level of significance and degree of freedom(df) 2. Therefore we reject the null hypotheses.

Research hypothesis 2:

Ho2: Lifestyle factors, such as diet, stress, and self-medication, do not significantly contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oke.

Questions	Very significant	Somewhat significant	Not significant	Row total
Do you think dietary habits contribute to the high incidence of peptic ulcers among students?	39	31	30	100

How significant is the role of stress in the development of peptic ulcers among students?	36	28	36	100
How they think the use of NSAIDs affects peptic ulcer rates among students?	38	32	30	100
What impact do you believe smoking has on the prevalence of peptic ulcers in their student population?	30	40	30	100
How does alcohol consumption relate to the occurrence of peptic ulcers among students?	31	41	28	100
Column total	174	172	154	500

The table above shows Lifestyle factors, such as diet, stress, and self-medication, significantly contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oke. Table value= 15.507 and calculated value = 6.986438448 at 0.05 level of significance and degree of freedom(df)8. Therefore, we reject the null hypotheses.

Research hypothesis 3:

Ho3: There is no significant relationship between compliance with management and treatment protocols and the outcomes of peptic ulcer disease among students at Thomas Adewumi University, Oke.

Questions	Not familiar	Somewhat familiar	Familiar	Very familiar	Row total
how important they think it is to follow a prescribed medication regimen for peptic ulcers?	18	18	32	32	100
are you familiar with the role of antacids in managing peptic ulcers?	16	14	39	31	100
COLUMN TOTAL	34	32	71	63	200

The table above shows there is no significant relationship between compliance with management and treatment protocols and the outcomes of peptic ulcer disease among students at Thomas Adewumi University, Oke. Table value= 7.815 and calculated value = 1.32366092 at 0.05 level of significance and degree of freedom(df)3. Therefore, we accept the null hypothesis.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter deals with the discussion of findings, implication in nursing, summary, conclusions, recommendations and suggestions for further studies.

5.1. Discussion of findings

Research Question 1: What is the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oke?

Table 4.2 shows that 57% of respondents indicated that they have heard of peptic ulcer disease (PUD) before, while 43% responded no. This suggests a majority of students are aware of the condition, although a significant proportion have not heard of the

condition before. Table 4.3 reveals that 33% of respondents believe that *Helicobacter pylori* infection is a primary cause of peptic ulcer disease, while others attribute the condition to stress (29%), alcohol consumption (23%), and smoking (21%). Also, Table 4.4 shows that 58% of respondents can name preventive measures for peptic ulcer disease, showing a moderate level of awareness about disease prevention. Table 4.6, however, indicates that only 45% of students think avoiding certain foods can prevent peptic ulcers, suggesting a gap in knowledge about the role of diet in prevention.

Research Question 2: How knowledgeable are the students of Thomas Adewumi University, Oko, about the management of peptic ulcer disease?

Table 4.12 shows the frequency distribution of respondents' knowledge regarding the standard treatments for peptic ulcer disease. 69% of respondents identify proton pump inhibitors (PPIs) as a standard treatment, indicating a strong awareness of this treatment. Additionally, 19% mention histamine H₂ receptor antagonists, while 10% attribute awareness to antibiotics, and only 7% are aware of antacids as part of the standard treatments. Table 4.13 reveals respondents' familiarity with the use of PPIs in treating peptic ulcers. 31% of respondents are very familiar with the use of PPIs, while 16% are familiar. Furthermore, 25% are somewhat familiar, and 28% are not familiar with PPIs in treating peptic ulcers. Moreover, Table 4.10 shows the frequency distribution of responses regarding whether respondents are aware of any over-the-counter medications that can affect peptic ulcer prevention. 50% of respondents said yes, while the other 50% said no.

Research Question 3: What factors contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oko?

Table 4.22 shows that 31% of respondents believe NSAID use is the primary cause of

peptic ulcer disease among students, while 30% attribute it to irregular eating habits. This is followed by smoking (20%), alcohol consumption (9%), and stress (5%). These responses indicate that a substantial portion of the student population is aware of the major lifestyle factors contributing to peptic ulcer disease. Also, Table 4.23 indicates that 39% of respondents see dietary habits as very significant in peptic ulcer disease occurrence, while Table 4.24 shows that 36% believe stress plays a significant role, but the same percentage believe it is not significant.

Research Question 4: How does compliance with management and treatment protocols affect peptic ulcer disease outcomes among students at Thomas Adewumi University, Oke?

Table 4.16 reveals that 32% of respondents believe that following a prescribed medication regimen is important, while another 32% consider it very important, Table 4.20 further supports this, showing that 34% of respondents believe lifestyle modifications are very effective in treating peptic ulcer disease, with 28% considering them effective. Meanwhile, Table 4.30 shows that 38% of respondents believe lack of knowledge about PUD prevention significantly affects its prevalence.

Research Objective 1: To assess the knowledge of prevention of peptic ulcer amongst the students of Thomas Adewumi University Oke.

Concerning the prevention of peptic ulcer disease (PUD), information from literature and questionnaire surveys are beneficial in learning the potential of students of Thomas

Adewumi University, Oke. The analysis brings out the level of students' knowledge of risk factors and measures aimed at the prevention of PUD.

The literature suggests that the prevention of peptic ulcers encompasses stopping harmful practices like misuse of NSAIDs, smoking, drinking habits, etc. and encouraging healthy dietary habits and management of stress (Chey, Wong & Kuipers, 2021). It also stresses the importance of *Helicobacter pylori* infections where the emphasis is placed on prevention by early detection and treatment (Malfertheiner et al., 2017). It is also important to educate oneself on such factors and therapy compliance (Ford & Howden, 2021).

On the other hand, the questionnaire results reveal a rather average level of knowledge on PUD prevention among the students. Of the PUD who have heard of it still, it is a worrying number because this is quite a high percentage of people who don't know what PUD is (Table 4.2). Even more worrying, 42% of students do not know how to prevent this disease prevalent among students (Table 4.4), while 55% do not believe it is possible to lower the risk of an ulcer through diet which is another cause for concern considering the pivotal role a diet plays in the prevention of ulcer (Chey et al., 2021).

Close to 1 out of three students recognizes NSAIDs (31%) or consumption of food at inappropriate times (30%) as some contributing factors (see table 4.22) whereas stress as a risk is understood with only 5% accuracy which is a glaring deficit since it is a known risk (Ford & Howden, 2021). In addition, only 37% of students agree with the statement that they have taken proper measures aimed at the prevention of PUD which actually entails education (Table 4.31), indicating underestimation of education's preventative potential (Peterson, 2019).

To summarize, whilst a good number of the students have an idea on how to avoid PUD, there are quite a number of gaps most especially on what probably some or all might

be concerning the diet, stress, or medication. In addition, specific interventions tailored towards health education on such issues may improve understanding and lower prevalence of PUD in this particular population (Malfertheiner et al., 2017).

Research Objective 2: To determine the level of knowledge of the students of Thomas Adewumi University Oko about the management of peptic ulcer diseases.

As shown in Table 4.12, data presented there indicates that as much as 69% of students regard PPIs as the primary method of treatment for PUD, an improvement in the knowledge about effective treatment methods. This is in conformity with the general practice in medicine, where PPIs are recommended as the first line therapy for PUD management (Chey et al., 2017). The proportion of students who have some knowledge of histamine H2 receptor antagonists (19%) and antibiotics (10%), however, is much lower illustrating that the knowledge is rather minimal.

This makes their understanding less comprehensive, as 31% of students were very familiar with PPIs, with 31% on the other hand admitting they were quite unfamiliar with them as shown in Table 4.13. While it is clear from the data that a good proportion of students have some understanding of PUD management, Table 4.10 however, provides evidence that 50% only know about OTC medicines that have a role in the prevention of peptic ulcer disease, leaving the scope of understanding possible treatments as rather low.

These results corroborate earlier studies indicating that, although young adults are well acquainted with the symptoms and causes of gastrointestinal diseases, their knowledge of medical gastroenterology treatment remains rudimentary (Qari, 2020; Ford et al., 2014). At the same time, as demonstrated in the study by Omar et al. (2018), there remains a strong knowledge of PPIs among the students but some knowledge gaps exist

concerning the other aspects of PUD management that include treatment maintenance and lifestyle factors.

In conclusion, the students of Thomas Adewumi University have moderate level of knowledge of PUD management. The students do seem to have a high level of awareness of PPIs but in addition to that, the education campaigns need to promote knowledge of other effective management of PUD that are preventive in nature.

Research Objective 3: To identify the factors causing the high occurrence of peptic ulcer amongst students in Thomas Adewumi University, Oko.

Based on the data obtained from the questionnaire and literature review, the reasons leading to a high prevalence of peptic ulcer disease (PUD) among students of Thomas Adewumi University, Oko were outlined. Some of such factors include the use of NSAIDs, not sticking to meals, smoking, alcohol drinking, and stress which are recognized causes of PUD.

Analgesic use specific to NSAIDs was pointed out as a frequent cause of peptic ulcers by 31% of the respondents which complies with the available medical sources that cite NSAIDs as the leading cause of stomach ulcers because of their deleterious effects on this organ's mucosa (Lanas & Chan, 2017). It is likely that students frequently self-medicate with NSAIDs which results in a higher prevalence of ulcers in this group.

Poor eating routines which were reported by 30% of respondents are also a major contributing factor. Research suggests that irregular meal consumption reduces the acid balance and increases the chances of ulcers appearing, more so in students with numerous academic demands (Olokoba et al., 2013).

Among the respondents' other lifestyle issues such as smoking 20% and alcohol use 9% were also reported. Both these factors increase gastric acid secretion and cause damage to the stomach wall which increases the likelihood of ulcer disease (Sonnenberg, 2020). Stress, which affects 36% of respondents, does not contribute directly to PUD but leads to irregular eating patterns, using substances, and other ulcer causing activities (Holman, 2022). Self-medication of students with NSAIDs and OTC drugs also increases the risk (Mandal et al., 2020).

In conclusion, students are highly infested with PUD because of factors such as neglect of NSAIDs take and dependence on them, bad eating behavior, ambience, and more stress or pressure. Educating and attacking these things with a robust health care system can successfully reduce PUD among this population.

Research Objective 4: To assess the effect of compliance with the management and treatments of peptic ulcer amongst students of Thomas Adewumi University.

The effectiveness of the compliance with management of peptic ulcer disease (PUD) among students of Thomas Adewumi University, Oke was evaluated using the questionnaire and the literature review. The outcomes note that it is essential to comply with medication and lifestyle changes in the management of PUD and the overall health. Constants were also assessed in the questionnaire where it was established that 32% of the respondents have a very high regard on the importance of following prescribed medications including the PPIs and antibiotics, while an additional 32% regard it as important. This is consistent with literature stressing that PUD caused by *Helicobacter pylori* infection is particularly difficult to manage because strict adherence to treatment is paramount (Malfertheiner et al., 2017; Chey et al., 2017). Non-compliance on the other hand may exacerbate the symptoms or cause more complications.

Changing lifestyle also contributes to the management where a 34% of the students regard the efficacy of the changes such as reduction of alcohol consumption, quitting smoking and proper tailored diets as very high, while 28% regard them as effective. As some research has shown, they are also some of the areas that needed consideration in the management of ulcers, alongside medical treatment (Olokoba et al., 2013).

Nonetheless, a small percentage of students appear non-compliant regarding medications, with 18% of them considering medication schedules as moderately important or least important. This brings forth, motivational or treatment comprehension barriers which should be addressed through education (Zullo et al., 2016).

To summarize, treatment of PUD, as well as the lifestyle modifications, entails compliance, which is achievable with active health education of the students, in this case.

Research Hypothesis 1:

Ho1: There is no significant difference in the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oko.

From the chi-square analysis, the calculated chi-square value (X-cal) is 4.205357143, and the critical value (X-tab) is 5.991 at a 0.05 significance level with 2 degrees of freedom. Since $X\text{-cal} < X\text{-tab}$, the null hypothesis is rejected. This implies that there is a significant difference in the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University.

Research Hypothesis 2:

Ho2: Lifestyle factors, such as diet, stress, and self-medication, do not significantly contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oko.

The chi-square analysis shows a calculated value of 6.986438448 and a table value of 15.507 at a 0.05 significance level with 8 degrees of freedom. Since the calculated value is less than the table value, we reject the null hypothesis, indicating that lifestyle factors, including diet, stress, and self-medication, significantly contribute to the high occurrence of peptic ulcer disease among students. Tables 4.22, 4.23, and 4.24 reveal that students acknowledge the significant role of dietary habits, stress, and the use of NSAIDs in increasing peptic ulcer diseases rates.

Research Hypothesis 3:

Ho3: There is no significant relationship between compliance with management and treatment protocols and the outcomes of peptic ulcer disease among students at Thomas Adewumi University, Oko.

The chi-square analysis shows a calculated value of 1.32366092 and a table value of 7.815 at a 0.05 significance level with 3 degrees of freedom. Since $X\text{-cal} < X\text{-tab}$, the null hypothesis is accepted, indicating no significant relationship between compliance with management and treatment protocols and peptic ulcer diseases outcomes among students. The findings in Tables 4.16 and 4.20 suggest that although students recognize the importance of compliance with prescribed medication, the overall effect on outcomes is less significant than expected.

5.2 Implications for Nursing

Nurses play a vital role in the prevention and management of peptic ulcer disease among students. Health education should be a key focus, with nurses raising awareness about the causes and prevention of peptic ulcer disease through talks, materials, and consultations. Emphasizing lifestyle changes such as healthier eating habits, stress management, reducing alcohol intake, and avoiding smoking can help students prevent and manage the condition effectively. Nurses must also educate students on the dangers of self-medication and the importance of adhering to prescribed treatments.

Additionally, timely diagnosis and proper treatment are crucial, and nurses should work closely with health care providers to ensure students receive appropriate care. Continuous training on the latest practices in peptic ulcer disease management, through workshops and professional development, will help nurses stay equipped to provide optimal care and improve outcomes for students dealing with this preventable disease.

5.3 Limitations of the study

The study faced several limitations. The limited time and resources made the work stressful and also getting the information that was used for this study was very hard and time consuming.

5.4 Summary

This study investigated the knowledge, causes, and prevention of peptic ulcer disease among students at Thomas Adewumi University, Oke. The findings revealed that while a majority of students are aware of peptic ulcer disease, significant gaps exist in their understanding of its causes and preventive measures. *Helicobacter pylori* infection, stress, alcohol consumption, and smoking were identified as key factors contributing to the disease. Additionally, the study showed that many students recognized the

importance of compliance with treatment and lifestyle modifications but lacked sufficient knowledge of professional treatment options.

5.5 Conclusion

In conclusion, this study highlights the need for increased awareness and education regarding the causes, prevention, and treatment of peptic ulcer disease among students. Although many students understand some aspects of the condition, more needs to be done to improve their knowledge of effective prevention and management strategies. Health education campaigns should focus on informing students about the role of diet, stress management, and medical compliance in reducing the incidence of peptic ulcer disease.

5.6 Recommendations

To individuals:

- Students should seek proper knowledge about peptic ulcer disease, including its causes, symptoms, and preventive measures.
- Encourage regular health check-ups and avoid self-medication with NSAIDs.
- Implement lifestyle changes such as eating smaller, frequent meals and reducing alcohol and caffeine consumption to manage and prevent peptic ulcers.

To health care professionals and educators:

- Conduct regular health education programs focusing on peptic ulcer disease prevention and management, targeting students in high-stress academic environments.

-Provide easy access to medical consultations and promote the use of professional counseling services for students dealing with stress-related conditions.

To the government:

-Invest in student health programs that address peptic ulcer disease through awareness campaigns and ensure funding for healthcare services at academic institutions.

-Improve access to gastrointestinal healthcare for students, particularly those at risk of developing peptic ulcer disease due to lifestyle factors.

5.7 Suggestions for Further Studies

Future research could focus on examining the effectiveness of targeted health education programs in improving students' knowledge and prevention practices related to peptic ulcer disease. Additionally, exploring the impact of diet and stress management interventions on reducing peptic ulcer incidence among students would provide valuable insights for developing better prevention strategies.

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Appendix 1

Research hypotheses 1

There is no significant difference in the level of knowledge regarding the prevention of peptic ulcer disease among students at Thomas Adewumi University, Oko.

Detailed calculation hypotheses 1

Questions	Yes	No	Row total
Have you heard of peptic ulcer before	57	43	100
Can you name any preventive measure of peptic ulcer	58	42	100
Can avoiding certain foods can help prevent peptic ulcers?	45	55	100
Column total	160	140	300

$$\text{Expected frequency.} = \frac{\text{row total} \times \text{column total}}{\text{grand total}}$$

$$\text{For } 57 = \frac{100 \times 160}{300} = \frac{16000}{300} = 53.33$$

$$\text{For } 43 = \frac{100 \times 140}{300} = \frac{14000}{300} = 46.66$$

$$\text{For } 58 = \frac{100 \times 160}{300} = \frac{16000}{300} = 53.33$$

$$\text{For } 42 = \frac{100 \times 140}{300} = \frac{14000}{300} = 46.66$$

$$\text{For } 45 = \frac{100 \times 160}{300} = \frac{16000}{300} = 53.33$$

$$\text{For } 55 = \frac{100 \times 140}{300} = \frac{14000}{300} = 46.66$$

Observe frequency	Expected frequency	$(O - E)$	$(O - E)^2$	$(O - E)^2 / E$

57	53.33333333	3.666666667	13.44444444	0.252083333
43	46.66666667	-3.666666667	13.44444444	0.288095238
58	53.33333333	4.666666667	21.77777778	0.408333333
42	46.66666667	-4.666666667	21.77777778	0.466666667
45	53.33333333	-8.333333333	69.44444444	1.302083333
55	46.66666667	8.333333333	69.44444444	1.488095238
				4.205357143

Degree of freedom = ((Row-1) x (Column-1))
= (2-1) x (3-1)
1 x 2
= 2

Using alpha level of 0.05 4.205357143) and x-tab= (5.991)

Df (2) = 5.991

X² Table value= 5.991 in Df (2)

X² Calculated value = 4.205357143

Appendix 2

Research hypotheses 2

Lifestyle factors, such as diet, stress, and self-medication, do not significantly contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oke.

Detailed calculation hypotheses 2

Questions	Very significant	Somewhat significant	Not significant	Row total
do you think dietary habits contribute to the high incidence of peptic ulcers among students?	39	31	30	100
how significant is the role of stress in the development of peptic ulcers among students?	36	28	36	100
how they think the use of nsoids affects peptic ulcer rates among students?	38	32	30	100
what impact do you believe smoking has on the prevalence of peptic ulcers in their student population?	30	40	30	100
how does alcohol consumption relate to the occurrence of peptic ulcers among students?	31	41	28	100
column total	174	172	154	500

$$\text{For } 39 = \frac{174 \times 100}{360} = \frac{17400}{360} = 48.3$$

$$\text{For } 36 = \frac{174 \times 100}{360} = \frac{17400}{360} = 48.3$$

$$\text{For } 38 = \frac{174 \times 100}{360} = \frac{17400}{360} = 48.3$$

$$\text{For } 30 = \frac{174 \times 100}{360} = \frac{17400}{360} = 48.3$$

$$\text{For } 31 = \frac{174 \times 100}{360} = \frac{17400}{360} = 48.3$$

$$\text{For } 31 = \frac{172 \times 100}{500} = \frac{17200}{500} = 34.4$$

$$\text{For } 28 = \frac{172 \times 100}{500} = \frac{17200}{500} = 34.4$$

$$\text{For } 32 = \frac{172 \times 100}{500} = \frac{17200}{500} = 34.4$$

$$\text{For } 40 = \frac{172 \times 100}{500} = \frac{17200}{500} = 34.4$$

$$\text{For } 41 = \frac{172 \times 100}{500} = \frac{17200}{500} = 34.4$$

$$\text{For } 30 = \frac{154 \times 100}{500} = \frac{15400}{500} = 30.8$$

$$\text{For } 36 = \frac{154 \times 100}{500} = \frac{15400}{500} = 30.8$$

$$\text{For } 30 = \frac{154 \times 100}{500} = \frac{15400}{500} = 30.8$$

$$\text{For } 30 = \frac{154 \times 100}{500} = \frac{15400}{500} = 30.8$$

$$\text{For } 28 = \frac{154 \times 100}{500} = \frac{15400}{500} = 30.8$$

Observe frequency	Expected frequency	$(O - E)$	$(O - E)^2$	$(O - E)^2 / E$
39	34.8	4.2	17.64	0.506896552
36	34.8	1.2	1.44	0.04137931
38	34.8	3.2	10.24	0.294252874
30	34.8	-4.8	23.04	0.662068966
31	34.8	-3.8	14.44	0.414942529
31	34.4	-3.4	11.56	0.336046512

28	34.4	-6.4	40.96	1.190697674
32	34.4	-2.4	5.76	0.16744186
40	34.4	5.6	31.36	0.911627907
41	34.4	6.6	43.56	1.26627907
30	30.8	-0.8	0.64	0.020779221
36	30.8	5.2	27.04	0.877922078
30	30.8	-0.8	0.64	0.020779221
30	30.8	-0.8	0.64	0.020779221
28	30.8	-2.8	7.84	0.254545455
				6.986438448

Degree of freedom $= ((\text{Row}-1) \times (\text{Column}-1))$
 $= (3-1) \times (5-1)$
 $\quad\quad\quad 2 \times 4$
 $= 8$

Using alpha level of 0.05

Df(8) = 15.507

X² Table value= 15.507 in Df(8)

X² Calculated value = 6.986438448

Appendix 3

Research hypotheses 3

Lifestyle factors, such as diet, stress, and self-medication, do not significantly contribute to the high occurrence of peptic ulcer disease among students at Thomas Adewumi University, Oko.

Detailed calculation hypotheses 3

There is no significant relationship between compliance with management and treatment protocols and the outcomes of peptic ulcer disease among students at Thomas Adewumi University, Oke.

Questions	Not familiar/important	Somewhat familiar/important	Familiar/important	Very familiar/important	Row total
how important they think it is to follow a prescribed medication regimen for peptic ulcers?	18	18	32	32	100
are you familiar with the role of antacids in managing peptic ulcers?	16	14	39	31	100
COLUMN TOTAL	34	32	71	63	200

$$\text{Expected frequency} = \frac{\text{row total} \times \text{column total}}{\text{grand total}}$$

$$\text{For } 18 = \frac{43 \times 100}{200} = \frac{4300}{200} = 21.5$$

$$\text{For } 16 = \frac{43 \times 100}{200} = \frac{4300}{200} = 21.5$$

$$\text{For } 18 = \frac{32 \times 100}{200} = \frac{3200}{200} = 16$$

$$\text{For } 14 = \frac{32 \times 100}{200} = \frac{3200}{200} = 16$$

$$\text{For } 32 = \frac{71 \times 100}{200} = \frac{7100}{200} = 35.5$$

$$\text{For } 39 = \frac{71 \times 100}{200} = \frac{7100}{200} = 35.5$$

$$\text{For } 32 = \frac{63 \times 100}{200} = \frac{6300}{200} = 31.5$$

$$\text{For } 31 = \frac{63 \times 100}{200} = \frac{6300}{200} = 31.5$$

Observe frequency	Expected frequency	$(O - E)$	$(O - E)^2$	$(O - E)^2 / E$
18	17	1	1	0.058823529
16	17	-1	1	0.058823529
18	16	2	4	0.25
14	16	-2	4	0.25
32	35.5	-3.5	12.25	0.345070423
39	35.5	3.5	12.25	0.345070423
32	31.5	0.5	0.25	0.007936508
31	31.5	-0.5	0.25	0.007936508
				1.32366092

$$\begin{aligned} \text{Degree of freedom} &= ((\text{Row}-1) \times (\text{Column}-1)) \\ &= (4-1) \times (2-1) \\ &\quad 3 \times 1 \\ &= 3 \end{aligned}$$

Using alpha level of 0.05

$$Df(3) = 7.815$$

X^2 table value = 7.815 in df(5)

X^2 calculated value = 1.32366092

Appendix 4

Questionnaire: Peptic Ulcer Disease (PUD) Awareness and Prevention

Thank you for your participation!

1. Gender:

Required

1. Female ()

2. Male ()

2. Age:

Required

1. 15-19 ()

2. 20-24 ()

3. 25-29 ()

3. Year of Study:

Required

1. Year 3 ()

2. Year 5 ()

4. Have you heard of Peptic Ulcer Disease (PUD) before?

1. Yes ()

2. No ()

5. What do you believe are the primary causes of Peptic Ulcer Disease today?

(Select all that apply)

1. Helicobacter pylori infection ()

2. Prolonged use of NSAIDs (Non-Steroidal Anti-Inflammatory Drugs) ()

3. Excessive alcohol consumption ()

4. Smoking ()

5. Stress ()

Other (please specify): _____

6. Can you name any preventive measures for Peptic Ulcer Disease?

1. Yes ()

2. No ()

If yes, please specify: _____

7. How familiar are you with the role of Helicobacter pylori in Peptic Ulcer Disease?

1. Not familiar ()
2. Somewhat familiar ()
3. Familiar ()
4. Very familiar ()

8. Do you think avoiding certain foods can help prevent peptic ulcers?

1. Yes ()
2. No ()

9. How knowledgeable are you about the impact of smoking on Peptic Ulcer prevention?

1. Not knowledgeable ()
2. Somewhat knowledgeable ()
3. Knowledgeable ()
4. Very knowledgeable ()

10. What do you know about the relationship between alcohol consumption and Peptic Ulcer prevention?

1. Not knowledgeable ()
2. Somewhat knowledgeable ()
3. Knowledgeable ()
4. Very knowledgeable ()

11. How well do you understand the impact of stress on developing Peptic Ulcers?

1. Not familiar ()
2. Somewhat familiar ()
3. Familiar ()

4. Very familiar ()

12. Are you aware of any over-the-counter medications that can affect Peptic Ulcer prevention?

1. Yes ()

2. No ()

13. How effective do you believe lifestyle changes are in preventing Peptic Ulcers?

1. Not effective ()

2. Somewhat effective ()

3. Effective ()

4. Very effective ()

14. What are the standard treatments for Peptic Ulcer Disease that you are aware of? (Select all that apply)

1. Antibiotics ()

2. Proton Pump Inhibitors (PPIs) ()

3. Antacids ()

4. Histamine H2 receptor antagonists ()

5. Other (please specify): _____

15. How familiar are you with the use of Proton Pump Inhibitors (PPIs) in treating Peptic Ulcers?

1. Not familiar ()

2. Somewhat familiar ()

3. Familiar ()

4. Very familiar ()

16. Do you know why it is important to eradicate *Helicobacter pylori* in the treatment of Peptic Ulcers?

1. Yes ()

2. No ()

17. Are you aware of any potential side effects associated with common ulcer medications?

1. Yes ()
2. No ()
3. If yes, please specify: _____

18. How important do you think it is to follow a prescribed medication regimen for Peptic Ulcers?

1. Not important ()
2. Somewhat important ()
3. Important ()
4. Very important ()

19. What dietary changes do you think are necessary for managing Peptic Ulcer Disease? (Select all that apply)

1. Avoid spicy foods ()
2. Reduce alcohol consumption ()
3. Avoid caffeine ()
4. Eat smaller, frequent meals ()
5. Other (please specify): _____

20. How familiar are you with the role of antacids in managing Peptic Ulcers?

1. Not familiar ()
2. Somewhat familiar ()
3. Familiar ()
4. Very familiar ()

21. Can you describe the process for diagnosing Peptic Ulcer Disease? (Select all that apply)

1. Endoscopy ()
2. Blood test for *Helicobacter pylori* ()

3. Urea breath test ()
4. Stool antigen test ()
5. Other (please specify): _____

22. How do you think lifestyle modifications affect the treatment of Peptic Ulcers?

1. Not effective ()
2. Somewhat effective ()
3. Effective ()
4. Very effective ()

23. What long-term management strategies for Peptic Ulcers are you aware of?
(Select all that apply)

1. Regular use of Proton Pump Inhibitors (PPIs) ()
2. Eradication of *Helicobacter pylori* ()
3. Regular medical check-ups ()
4. Lifestyle changes (e.g., smoking cessation, dietary changes) ()
5. Other (please specify): _____

24. What do you think are the main causes of Peptic Ulcer Disease among students at our university?

1. Stress ()
2. Smoking ()
3. Alcohol consumption ()
4. Irregular eating habits ()
5. Use of NSAIDs ()
6. Other (please specify): _____

25. How do you think dietary habits contribute to the high incidence of Peptic Ulcers among students?

1. Very significant ()

2. Somewhat significant ()

3. Not significant ()

26. In your opinion, how significant is the role of stress in the development of Peptic Ulcers among students?

1. Very significant ()

2. Somewhat significant ()

3. Not significant ()

27. How do you think the use of NSAIDs affects Peptic Ulcer rates among students?

1. Very significant ()

2. Somewhat significant ()

3. Not significant ()

28. What impact do you believe smoking has on the prevalence of Peptic Ulcers in our student population?

1. Very significant ()

2. Somewhat significant ()

3. Not significant ()

29. How does alcohol consumption relate to the occurrence of Peptic Ulcers among students?

1. Very significant ()

2. Somewhat significant ()

3. Not significant ()

30. Are you aware of any genetic factors that might contribute to Peptic Ulcer Disease among students?

1. Yes ()

2. No ()

31. How do you think irregular eating patterns influence the frequency of Peptic Ulcers among students?

1. Very significant ()
2. Somewhat significant ()
3. Not significant ()

32. How does a lack of knowledge about Peptic Ulcer prevention affect its prevalence among students?

1. Very significant ()
2. Somewhat significant ()
3. Not significant ()

33. What role do you think health education resources play in reducing the incidence of Peptic Ulcers among students?

1. Very significant ()
2. Somewhat significant ()
3. Not significant ()