

**KNOWLEDGE AND PREVENTIVE PRACTICES REGARDING PEPTIC  
ULCER DISEASE AMONG NURSING STUDENTS IN A TERTIARY HEALTH  
INSTITUTION IN BENIN CITY**

**BY**

**OZOR CHIDIMMA FAITH**

**BMS1906628**

**FACULTY OF NURSING SCIENCE**

**UNIVERSITY OF BENIN,**

**BENIN CITY**TITLE PAGE

**NOVEMBER, 2025**

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**OZOR CHIDIMMA FAITH**

**BMS1906628**

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**UNIVERSITY OF BENIN,**

**BENIN CITY**

**IN PARTIAL FULFILLMENT OF AWARD OF THE DEGREE IF BACHELOR  
OF NURSING SCIENCE, SCHOOL OF BASIC MEDICAL SCIENCES,  
UNIVERSITY OF BENIN**

**NOVEMBER, 2025**

## **DECLARATION**

This is to declare that this research project titled " KNOWLEDGE AND PREVENTIVE PRACTICES REGARDING PEPTIC ULCER DISEASE AMONG NURSING STUDENTS IN A TERTIARY HEALTH INSTITUTION IN BENIN CITY" will be solely carried out by OZOR CHIDIMMA FAITH. It will solely be the result of my work except where stated otherwise by reference or acknowledgement as being derived from other person (s) or resources.

**MATRICULATION NUMBER:** \_\_\_\_\_

**FACULTY/SCHOOL:** FACULTY OF NURSING SCIENCE, COLLEGE MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## CERTIFICATION/APPROVAL

This is to certify that this research project titled " KNOWLEDGE AND PREVENTIVE PRACTICES REGARDING PEPTIC ULCER DISEASE AMONG NURSING STUDENTS IN A TERTIARY HEALTH INSTITUTION IN BENIN CITY was carried out by **OZOR CHIDIMMA FAITH** with **Mat No. BMS1906628** in the Department of Nursing Science, under the supervision of **Mrs. R. LAWAL**.

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**MRS R. LAWAL**  
**Project Supervisor**

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**DATE**

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**PROF (MRS.) C.E OMOROGBE**  
HOD (Medical Surgical Nursing)

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**DATE**

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External Examiner

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**DATE**

## **DEDICATION**

This project work is dedicated to the **ALMIGHTY GOD** who has been my constant source of help and strength in my academic journey.

To my beloved Parents, Mr & Mrs Ozor John, whose unwavering support both financially and morally has kept me outstanding and fostering success all through my academic year.

## ACKNOWLEDGMENT

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Finally, I would like to appreciate everyone who contributed to the success of this study in one way or the other. This study would not have been possible without the contributions of numerous individuals who have supported me throughout this research journey. I extend my sincere appreciation to everyone who has played a role in shaping this study, from the participants who shared their experiences to the healthcare professionals who provided valuable insights. I am grateful for the guidance of my

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## ABSTRACT

Peptic ulcer disease (PUD) remains a major global health concern, with misconceptions about its causes and prevention influencing health-seeking behavior. Nursing students, as future healthcare providers, require accurate knowledge and sound preventive practices. This study assessed knowledge, preventive practices, misconceptions, and influencing factors regarding PUD among undergraduate nursing students at the University of Benin, Edo State. A descriptive cross-sectional design was used. A total of 255 questionnaires were distributed, with 249 valid responses obtained (97.6% response rate). Data were collected using structured self-administered questionnaires and analyzed with descriptive statistics. Knowledge scores were categorized as good ( $\geq 0.70$ ), fair (0.50–0.69), or poor ( $< 0.50$ ). Results showed that 78% of respondents demonstrated good overall knowledge of PUD, with strengths in symptom recognition (96.4%) and causative role of *Helicobacter pylori* (74.7%). However, knowledge gaps persisted in H. pylori transmission (51.8%) and NSAID-related ulcer formation (63.9%). Preventive practices recorded a grand mean of 0.66, reflecting moderate adherence, with good performance in avoiding unprescribed painkillers (mean = 0.82) and maintaining hydration (mean = 0.79), but poor adherence regarding alcohol (0.42) and tobacco use (0.37). Major influencing factors included level of study (mean = 3.30), academic workload (3.07), and healthcare accessibility (3.09). Misconceptions persisted, particularly stress as a sole cause (mean = 0.42) and treatment discontinuation after symptom relief (0.55). Despite good baseline knowledge, the persistence of misconceptions and moderate preventive practices indicate a knowledge–practice gap requiring targeted educational interventions.

**Keywords:** Peptic ulcer disease, knowledge, preventive practices, misconceptions

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Peptic ulcer disease (PUD) represents one of the most significant gastrointestinal disorders affecting millions worldwide, characterized by open sores in the stomach, duodenum, or esophagus resulting from imbalanced aggressive and protective factors (Abbasi-Kangevari et al., 2022). The global burden demonstrates considerable regional variations, with changing epidemiological patterns reflecting diverse risk factors and therapeutic interventions across geographical regions. African populations experience substantial PUD burden, with duodenal ulcers more common than gastric ulcers and highest prevalence in West and East Africa (Abdu et al., 2025). This pattern is particularly relevant for Nigeria, where university studies consistently report PUD prevalence ranging from 7.9% to 12.4% among undergraduate populations (Bodunde et al., 2025). Such high prevalence rates underscore the critical importance of ensuring nursing students possess comprehensive knowledge and preventive practice skills.

*Helicobacter pylori* infection represents the most significant causative agent worldwide. Nigerian studies document infection rates as high as 64.3% among university students (Ikpenwa et al., 2022). However, concerning knowledge gaps persist regarding *H. pylori* transmission and clinical significance among healthcare students. Contemporary investigations reveal critical misconceptions in *H. pylori* management, including inadequate understanding of antibiotic resistance patterns and limited awareness of its role in gastric carcinogenesis (Bornschein & Pritchard, 2022). Beyond infectious etiology,

lifestyle and pharmacological factors significantly influence PUD development. Non-steroidal anti-inflammatory drugs represent major iatrogenic causes, yet studies demonstrate inadequate knowledge among healthcare providers. Saudi Arabian research revealed only 56% understood NSAIDs should be taken with meals, and merely 50% of smokers recognized smoking's contribution to PUD pathogenesis (Al-Mehmadi et al., 2023). Similar knowledge deficits appear across multiple populations regarding dietary factors, stress management, and medication-related risks (Alanazi et al., 2023). Educational preparation of nursing students regarding PUD presents unique challenges. Studies examining healthcare student knowledge levels reveal concerning disparities, with only 9% of nursing students demonstrating adequate PUD knowledge (Bojuwoye et al., 2021).

Nigerian clinical students showed 95.5% possessed mild risk awareness, yet significant knowledge deficits persisted, with only 0.3% correctly identifying *Helicobacter pylori* as primary etiological agent (Chinecherem et al., 2024). These gaps extend beyond pathophysiology to encompass symptom recognition and risk factor identification. Preventive practices encompass lifestyle modifications, dietary interventions, and healthcare-seeking behaviors. Research identifies critical relationships between lifestyle factors and PUD development, documenting significant associations with smoking, alcohol consumption, and dietary patterns (Chinecherem et al., 2024). University students demonstrate concerning dietary practices, including high consumption of spicy foods (63.4%), carbonated beverages (68.3%), and frequent fatty food intake (39.0%) (Bodunde et al., 2025). Community studies reveal that while 83.33% possess good definitional knowledge, only 26.67% understand causative factors, with inconsistent

preventive behavior practice (Kayemba & NO, 2021). Healthcare provider practice environments demand sophisticated PUD management understanding. Research reveals significant variations in knowledge and evidence-based intervention implementation, with moderate knowledge levels among practicing nurses regarding prevention strategies (Najm et al., 2023). African healthcare settings document concerning ulcer perforation patterns, with elevated risks among males, rural populations, and specific occupational groups (Edyedu et al., 2024).

Self-medication practices among healthcare students present additional concerns. Eastern Ugandan medical students showed 93.8% engaged in antibiotic self-medication, with PUD among the most common self-treatment conditions (Nakato et al., 2023). These practices reflect knowledge gaps and inappropriate clinical decision-making requiring educational intervention. Contemporary healthcare delivery demands nursing professionals possess theoretical knowledge and practical patient education skills. Healthcare provider knowledge directly influences patient understanding and preventive recommendation compliance (Pham et al., 2023). Elderly PUD patients demonstrate substantial knowledge gaps regarding recurrence prevention and medication adherence, emphasizing well-prepared nursing professionals' critical role (Shokry Abd Allah et al., 2021). International studies consistently identify healthcare provider knowledge deficits contributing to suboptimal care delivery (Malek et al., 2021).

## **1.2 Statement of the Problem**

Peptic ulcer disease remains a significant public health concern in Nigeria, with prevalence rates ranging from 7.9% to 12.4% among university students (Bodunde et al., 2025). Despite the substantial disease burden, critical knowledge gaps exist among

healthcare students regarding peptic ulcer disease etiology, risk factors, and management strategies. Research conducted among Nigerian tertiary institution students revealed that only 9% of nursing students demonstrated adequate knowledge about peptic ulcer disease, with a concerning 99.7% unable to correctly identify *Helicobacter pylori* as a primary causative agent (Chinecherem et al., 2024). The knowledge deficits extend beyond basic pathophysiology to encompass preventive practices, with studies documenting poor lifestyle choices among university students, including high consumption of spicy foods (63.4%), carbonated beverages (68.3%), and inadequate dietary management practices (Bodunde et al., 2025). Additionally, concerning self-medication behaviors have been identified among healthcare students, with 93.8% engaging in inappropriate antibiotic use for peptic ulcer-related conditions (Nakato et al., 2023). These knowledge and practice gaps are particularly problematic given that nursing professionals serve as primary patient educators and are expected to provide evidence-based preventive care guidance.

Currently, there is limited research specifically examining the knowledge levels and preventive practices regarding peptic ulcer disease among nursing students in Nigerian tertiary institutions. Without comprehensive assessment of these critical competencies, nursing education programs cannot identify specific knowledge deficits, develop targeted interventions, or ensure graduates possess the necessary skills to effectively prevent, recognize, and manage peptic ulcer disease in clinical practice. This knowledge gap represents a significant threat to quality patient care and optimal health outcomes in communities where peptic ulcer disease prevalence is substantial.

Therefore, there is an urgent need to assess the knowledge and preventive practices regarding peptic ulcer disease among nursing students at the University of Benin to inform educational improvements and enhance the quality of future nursing care delivery.

### **1.3 Objectives of study**

The general objective of this study aims to assess the knowledge and preventive practices regarding peptic ulcer disease among nursing students in a tertiary health institution in Benin City.

Specific objectives include:

1. To assess the level of knowledge of peptic ulcer disease among nursing students of the University of Benin.
2. To identify the preventive practices adopted by nursing students regarding peptic ulcer disease.
3. To identify factors influencing knowledge and preventive practices of peptic ulcer disease among nursing students.
4. To identify knowledge gaps and misconceptions about peptic ulcer disease among nursing students.

### **1.4 Research Questions**

1. What is the level of knowledge of peptic ulcer disease among nursing students of the University of Benin?
2. What preventive practices are adopted by nursing students regarding peptic ulcer disease?

3. What factors influence the knowledge and preventive practices of peptic ulcer disease among nursing students?
4. What knowledge gaps and misconceptions exist among nursing students about peptic ulcer disease?

### **1.5 Hypotheses**

**Ho:** There is no significant relationship between students' knowledge of peptic ulcer disease and their preventive practices towards peptic ulcer disease.

### **1.6 Significance of the Study**

#### **To the Nursing Profession**

This study is significant to the nursing profession as it highlights the level of knowledge and preventive practices nursing students possess regarding peptic ulcer disease. By identifying existing gaps, the findings will inform curriculum planners and educators about areas needing reinforcement, especially in clinical pharmacology, pathology, and preventive health education. Enhancing knowledge in this area will not only improve students' personal health behaviors but also strengthen their competence in health promotion and disease prevention when educating patients in future clinical settings.

#### **To Healthcare**

Within the healthcare system, nurses play a critical role in patient education and early detection of diseases. This study provides insight into how well nursing students are equipped to serve as agents of preventive care regarding peptic ulcer disease. Improving their understanding of the disease's risk factors and prevention will contribute to early intervention, reduction in disease complications, and better patient outcomes. It also

supports the development of evidence-based training and continuing education strategies aimed at reducing the burden of gastrointestinal diseases in healthcare settings.

### **To Society**

At the societal level, the study emphasizes the importance of equipping future healthcare professionals with the knowledge and behaviors necessary to model and promote healthy living. Peptic ulcer disease, often linked to lifestyle factors such as poor diet, stress, and misuse of medication, remains a preventable condition. When nursing students are well-informed, they become valuable resources in their communities, capable of raising awareness and encouraging preventive behaviors among the general population. This, in turn, can lead to a reduction in disease incidence, healthcare costs, and long-term complications, ultimately contributing to a healthier society.

### **1.7 Scope of the Study**

The study will be conducted in a selected tertiary institution and will focus on 200 -500 level nursing students. It aims to assess their knowledge and preventive practices related to peptic ulcer disease, including their understanding of its causes, risk factors, types, signs and symptoms, pathophysiology, possible complications, as well as preventive measures such as appropriate medication use, dietary habits, hygiene, stress management, and avoidance of harmful behaviors.

## **1.8 Operational Definition of Term**

**Assessment:** A structured process of evaluating nursing students' knowledge, understanding and practices regarding Peptic Ulcer Disease (PUD), using specific tools such as questionnaire to determine awareness and management behavior.

**Knowledge:** The information, awareness, and understanding that nursing students possess about Peptic ulcer Disease, including its causes, symptoms, risk factors, preventions, and treatment strategies.

**Management:** The actions and approaches adopted by nursing students to prevent, control, or treat Peptic Ulcer Disease, which may include medication use, lifestyle adjustments, dietary changes, and professional consultation.

**Peptic Ulcer Disease (PUD):** A gastrointestinal condition characterized by the form of open sores in the lining of the stomach or upper small intestine, commonly caused by *Helicobacter pylori* infection or long-term use of NSAIDs of nursing.

## CHAPTER TWO

### LITERATURE REVIEW

This chapter reviews existing scholarly works on peptic ulcer disease (PUD), focusing on its definition, management, and knowledge levels among nursing students in tertiary institutions. Emphasis is placed on how knowledge and management practices are influenced by academic exposure, clinical experience, and educational strategies. This review also identifies gaps in current research and suggests ways to improve nursing education concerning PUD.

#### 2.1 Conceptual Review

##### Overview of Peptic Ulcer Disease (PUD)

Peptic ulcer disease (PUD) is a significant public health issue that affects populations worldwide. It is defined as a break or lesion in the lining of the stomach, the lower esophagus, or the first part of the small intestine, which occurs as a result of acid-induced damage to the gastrointestinal mucosa. The most common causes of peptic ulcer disease are infection with *Helicobacter pylori* and the prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs). Other contributory factors include poor dietary habits, stress, smoking, alcohol consumption, and genetic predisposition. According to a global systematic analysis conducted by Abbasi-Kangevari and colleagues in 2022, peptic ulcer disease remains a persistent burden despite advances in medical treatment and public health interventions.

Among healthcare students, particularly nursing students, knowledge of peptic ulcer disease is critical. These students are future frontline health educators and care providers,

making their understanding of diseases such as peptic ulcer essential. Alali and colleagues in 2025 found that a lack of adequate knowledge about peptic ulcer disease among the general population contributes to poor health-seeking behavior and late presentation to healthcare facilities. Similarly, Akintade in 2025 reported that awareness levels among rural households in Ondo State were low, reinforcing the importance of early health education for nursing students who may serve in such communities after graduation.

Understanding the signs and symptoms of peptic ulcer disease is also a core component of knowledge. Common symptoms include burning abdominal pain, nausea, vomiting, bloating, and in severe cases, bleeding. Awareness of these symptoms among nursing students enables prompt recognition and early referral. In a study conducted by Al-Mehmadi and co-authors in 2023, knowledge regarding these symptoms and risk factors among Saudi adults was found to be inadequate, highlighting the global nature of the issue. Preventive practices are health behaviors aimed at avoiding the development or recurrence of peptic ulcers. These include avoiding self-medication with NSAIDs, maintaining good hand hygiene to prevent *H. pylori* infection, eating regular and healthy meals, reducing the intake of alcohol and caffeine, quitting smoking, and managing stress through healthy coping mechanisms. Bushra and colleagues in 2024 conducted a comparative study in Dhaka and concluded that smoking significantly increased the burden of peptic ulcer disease among healthcare providers. This suggests that even within the healthcare profession, unhealthy habits persist, reinforcing the need for behavior change education among nursing students. Despite having access to theoretical

knowledge, many nursing students may not consistently practice preventive behaviors. This discrepancy between what is known and what is practiced is referred to as the knowledge-practice gap. Bayana and his team in 2021 studied students in Jimma University and observed that although many respondents were aware of peptic ulcer symptoms and causes, few adhered to consistent preventive measures such as avoiding spicy food or reducing stress. Similarly, Bodunde, Aleru, and Oluwafemi in 2025 discovered that among students of a private university in Nigeria, dietary patterns did not align with best practices for ulcer prevention, even among those who were aware of the disease risks.

The role of educational interventions in bridging the knowledge-practice gap has been supported by various studies. Nguyen in 2023 assessed patients' understanding of peptic ulcer recurrence in Vietnam following an educational program. The results showed a marked improvement in knowledge and reported adherence to preventive practices. These findings suggest that similar interventions, if integrated into nursing education, may significantly improve both knowledge and behavior.

### Pathophysiology of Peptic Ulcer Disease

Peptic ulcer disease (PUD) develops when the balance between the aggressive factors and the protective mechanisms of the gastric and duodenal mucosa is disrupted. Under normal physiological conditions, the stomach lining is protected from the corrosive effects of gastric acid and digestive enzymes by a complex defense system, which includes a mucus-bicarbonate barrier, prostaglandins, mucosal blood flow, and epithelial

cell regeneration. When this balance is disturbed either by an increase in aggressive factors or a compromise in protective mechanisms ulceration can occur.

One of the primary aggressive agents in PUD is *Helicobacter pylori*, a spiral-shaped, gram-negative bacterium that colonizes the gastric mucosa. This microorganism disrupts mucosal integrity by producing urease, an enzyme that converts urea into ammonia. The resulting ammonia neutralizes gastric acid locally, allowing *H. pylori* to survive while damaging the mucosal lining. The bacterium also induces an inflammatory response, leading to further injury of the gastric epithelium. The chronic inflammation caused by *H. pylori* leads to the release of cytokines and proteolytic enzymes that weaken the mucosal defenses and contribute to ulcer formation. Another major factor in the pathogenesis of peptic ulcers is the use of non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin and ibuprofen. NSAIDs inhibit the cyclooxygenase (COX) enzymes, particularly COX-1, which is essential for the synthesis of protective prostaglandins in the stomach. Prostaglandins play a vital role in maintaining mucosal blood flow, stimulating bicarbonate and mucus secretion, and promoting epithelial cell renewal. Inhibition of these prostaglandins by NSAIDs reduces mucosal defense, making the lining more susceptible to acid-induced injury.

Gastric acid and the digestive enzyme pepsin also play a significant role in the pathophysiology of peptic ulcers. Excess acid secretion, whether due to genetic predisposition, gastrin-producing tumors (as seen in Zollinger-Ellison syndrome), or behavioral factors like stress and smoking, increases the risk of mucosal damage. Pepsin, an enzyme activated by acid, digests proteins and can break down the epithelial lining if

not properly contained by the mucus layer. Stress and lifestyle factors further influence ulcer formation. Physiological stress, particularly in critically ill patients, can lead to stress-related mucosal disease. This condition is associated with decreased mucosal blood flow, ischemia, and impaired production of protective mucus and bicarbonate. Cigarette smoking has been shown to impair mucosal healing, reduce bicarbonate production, and enhance acid secretion, all of which contribute to ulcer development and recurrence.

Once the mucosal layer is breached, acid and pepsin gain access to the underlying submucosa and muscularis, causing local inflammation, tissue necrosis, and eventually ulceration. If untreated, this process can lead to complications such as bleeding, perforation, and gastric outlet obstruction.

### **Knowledge of peptic ulcer**

Knowledge of peptic ulcer disease refers to the awareness and understanding individuals possess regarding the causes, symptoms, risk factors, complications, and management of the condition. For nursing students, this knowledge is particularly important as they are future healthcare professionals who will play key roles in health education, disease prevention, and patient care. A comprehensive understanding of peptic ulcer disease enables them not only to adopt preventive practices in their personal lives but also to influence public awareness and behavior through health promotion.

Understanding the etiology of peptic ulcer disease is a foundational element of knowledge. The two most common causes of the disease are infection with *Helicobacter pylori* and the prolonged use of non-steroidal anti-inflammatory drugs. Many individuals,

including students in health disciplines, often have limited awareness of the microbial nature of peptic ulcer disease and may mistakenly attribute its cause solely to stress or spicy food. Studies conducted in Nigeria, Saudi Arabia, and Ethiopia have shown that while many individuals may have heard of peptic ulcer disease, detailed knowledge about *Helicobacter pylori* as a major causative agent remains low. This gap highlights the need for improved instruction in microbiology and pharmacology in nursing programs.

Knowledge of clinical symptoms is also essential. Peptic ulcer disease typically presents with symptoms such as burning epigastric pain, nausea, vomiting, early satiety, and bloating. In more severe cases, symptoms may include gastrointestinal bleeding, black stools, or hematemesis. Nursing students are expected to not only identify these signs in themselves but also recognize them in clinical settings during patient assessments. A sound understanding of symptomatology enhances the ability to provide appropriate health education and referrals.

Awareness of risk factors is another critical component. These include behaviors and conditions that increase the likelihood of developing peptic ulcer disease. Common risk factors include smoking, excessive alcohol intake, irregular eating patterns, stress, and frequent use of medications like NSAIDs. In academic studies, such as those conducted by Alali and colleagues in Saudi Arabia, and Akintade in Nigeria, it was observed that knowledge of these risk factors varies widely among nursing students. Some students were aware of the role of NSAIDs, while others underestimated the risks associated with self-medication or unhealthy eating habits.

Another important aspect of knowledge is an understanding of complications associated with peptic ulcer disease. These complications include bleeding, perforation, gastric outlet obstruction, and increased risk of gastric malignancy in chronic or untreated cases. Lack of awareness about the severity and potential complications of the disease can lead to delayed diagnosis and treatment, increasing the likelihood of long-term health consequences. Educational interventions have been shown to improve nursing students' recognition of the seriousness of these complications and to foster more proactive health behaviors.

Moreover, knowledge about prevention and management is vital. Preventive strategies include lifestyle modifications such as eating regular meals, avoiding excessive use of NSAIDs, limiting alcohol and caffeine intake, quitting smoking, and managing stress effectively. Management involves the use of medications such as proton pump inhibitors, antacids, antibiotics for *Helicobacter pylori* eradication, and patient education. As part of their training, nursing students are taught these therapeutic approaches, but the extent to which this knowledge is retained and practiced depends on the quality of the curriculum, access to practical learning experiences, and individual motivation.

### **Preventive Practices Regarding Peptic Ulcer Disease**

Preventive practices regarding peptic ulcer disease (PUD) are essential in reducing the incidence and complications of the condition, particularly among high-risk groups such as students and healthcare providers. These practices involve conscious efforts to eliminate modifiable risk factors while promoting behaviors that enhance gastric mucosal

protection. Among nursing students, who are both learners and future health educators, awareness and adoption of preventive measures play a dual role in personal health and public health promotion. One of the most emphasized preventive practices is the proper use of medications. The misuse of non-steroidal anti-inflammatory drugs, including aspirin and ibuprofen, has been widely associated with increased risk for peptic ulceration. Nursing students are expected to avoid indiscriminate use of NSAIDs and adhere to prescriptions only when necessary. Studies have shown that a significant portion of students continue to use pain relievers without medical supervision, posing a challenge to ulcer prevention (Nasir et al., 2020). Similarly, self-medication without regard to side effects remains common among young adults, including those in medical-related fields (Musa and Bello, 2021).

Dietary practices also play a central role in prevention. Skipping meals, consuming highly spicy or acidic foods, and irregular eating patterns are common habits that increase gastric irritation. Promoting healthy eating habits such as having regular meals, avoiding late-night eating, and consuming foods that buffer stomach acid are preventive strategies that students are encouraged to adopt (Alali et al., 2023). Hydration and the reduction of caffeine intake also support gastric health. Lifestyle behaviors such as alcohol consumption and smoking have been directly linked to increased ulcer risk. Cigarette smoking decreases gastric mucosal blood flow and interferes with the healing process, while alcohol irritates the stomach lining. Preventive practice therefore includes cessation of smoking and limiting alcohol intake. Furthermore, effective stress management is also key, as chronic stress is believed to influence gastric acid secretion

and delay healing. Although stress alone does not directly cause ulcers, it acts as a contributing factor. Health education campaigns among students often emphasize adequate sleep, relaxation techniques, and time management. Finally, routine medical check-ups and seeking timely treatment when symptoms arise are part of responsible preventive behavior. Nursing students are trained to recognize early signs such as epigastric pain or bloating, and they are encouraged to promote early diagnosis and treatment within their communities (Udeani et al., 2023).

## **2.2 Theoretical framework**

This study will apply the Health Belief Model (HBM) as its theoretical framework. The HBM is a behavior change theory that helps explain and predict health-related behaviors by focusing on individuals' beliefs and perceptions. It is particularly relevant for this study as it provides insight into how nursing students' understanding of their susceptibility to peptic ulcer disease, the perceived severity of the condition, the benefits of preventive actions, and potential barriers influence their knowledge levels and management practices.

### **Health Belief Model (HBM)**

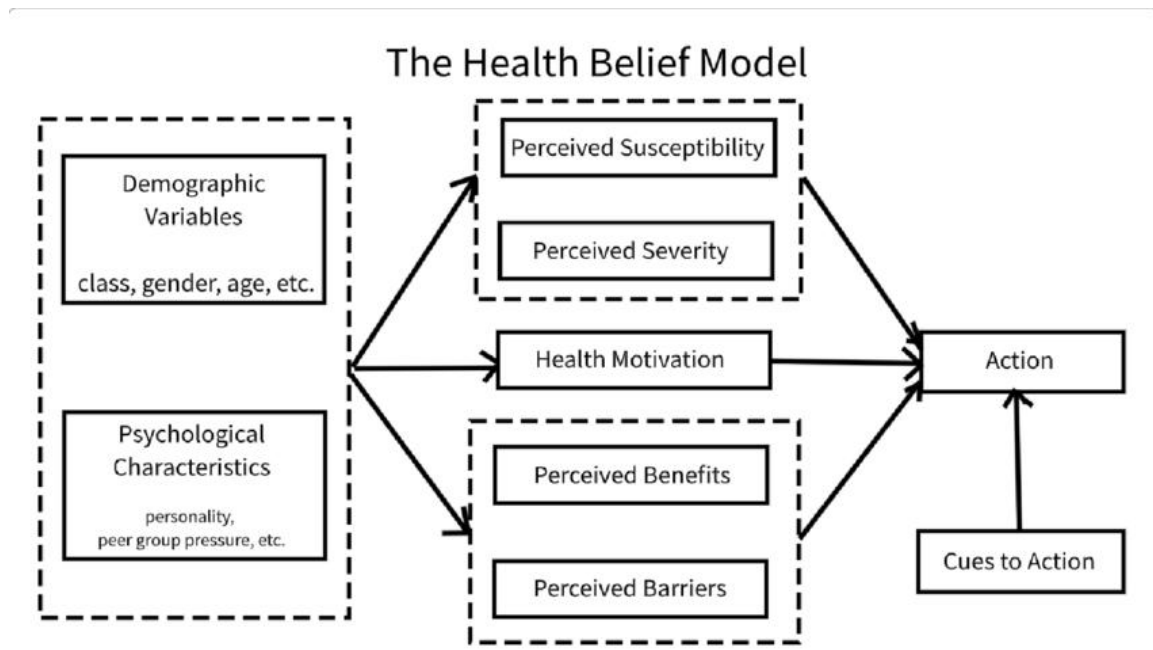
**The Health Belief Model (HBM)** is a psychological framework developed in the 1950s by social psychologists at the U.S. Public Health Service. It was originally designed to understand why individuals fail to adopt disease prevention strategies or screening tests. Over time, it has become one of the most widely used models for predicting and

explaining health behaviors, particularly in relation to adherence to medical advice and engagement in preventive health practices. The model is based on the premise that an individual's willingness to take health-related action depends on their perceptions and beliefs regarding a specific health condition. It is structured around six core constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cue to action, and self-efficacy. Perceived susceptibility refers to an individual's belief about the likelihood of contracting a disease or health condition. Perceived severity involves the individual's belief about the seriousness of the condition and its potential consequences, such as pain, disability, or death. Together, these two constructs help form the perceived threat, which can motivate health-related behaviors.

Perceived benefits refer to the belief in the efficacy of the advised action to reduce the risk or seriousness of the disease. Perceived barriers, on the other hand, are the individual's assessment of the obstacles to behavior change, such as cost, convenience, or fear of side effects. Cue to action represents the external or internal triggers that prompt an individual to adopt a behavior, such as media campaigns, reminders, symptoms, or advice from others. Finally, self-efficacy describes the confidence a person has in their ability to successfully perform the recommended health behavior.

The Health Belief Model has been applied across various health promotion and disease prevention contexts and is valued for its ability to highlight cognitive and emotional factors that influence health decision-making. It remains a foundational model in public

health and behavioral science for guiding both research and intervention design.



**Fig 2.1 The Health Believe Model**

### **Application to the Study**

The Health Belief Model (HBM) is adopted as the theoretical framework for this study because it effectively explains how personal beliefs and perceptions influence health-related behaviors, particularly in disease prevention and health maintenance. In the context of this research, the model is useful in examining how nursing students' perceptions shape their knowledge and preventive practices regarding peptic ulcer disease.

**Perceived susceptibility** reflects the extent to which nursing students believe they are vulnerable to developing peptic ulcer disease due to behaviors such as irregular eating habits, high levels of academic stress, use of non-steroidal anti-inflammatory drugs, and

self-medication. Students who do not consider themselves at risk may be less likely to engage in protective behaviors or take early symptoms seriously.

**Perceived severity** refers to how seriously the students view the potential consequences of peptic ulcer disease. If students understand the risks associated with complications such as gastrointestinal bleeding, perforation, or chronic pain, they may be more motivated to adopt preventive measures. On the other hand, those with low perception of the disease's severity may ignore symptoms or delay appropriate care.

**Perceived benefits** capture the students' belief in the effectiveness of engaging in preventive strategies such as eating regular and balanced meals, managing stress, avoiding unnecessary NSAID use, and practicing good hygiene to prevent *Helicobacter pylori* infection. When students understand how these behaviors contribute to ulcer prevention, they are more likely to integrate them into their daily routines.

**Perceived barriers** involve the obstacles that may hinder the students from practicing preventive measures. These may include lack of time, busy academic schedules, financial limitations, or a culture of self-medication among peers. Recognizing these barriers is essential in designing interventions that are both practical and effective.

**Cues to action** are internal or external prompts that motivate health behaviors. These may include classroom instruction, clinical experiences, health campaigns, or witnessing the effects of the disease in others, all of which can encourage nursing students to adopt healthy behaviors.

**Self-efficacy** refers to the students' confidence in their ability to carry out preventive actions and manage early symptoms of peptic ulcer disease. A strong sense of self-efficacy supports the application of knowledge into consistent practice.

### **2.3 Empirical Review**

This section will review relevant literatures locally, nationally and internationally based on the objectives of this study

#### **To assess the level of knowledge of peptic ulcer disease among nursing students**

In a cross-sectional study by Chinecherem et al. (2024) of clinical students at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu. A multi-stage sampling technique was used for the study. Data were collected using structured and validated questionnaires from 400 clinical students who were also measured for weights and heights by interviewers. Descriptive and inferential data were analyzed using Statistical Package for the Social Sciences (SPSS), while the significance of association was tested with Pearson chi-square at significance level of  $p < 0.05$ . Results: The study showed 95.5% had a mild risk of being diagnosed with PUD and most were knowledgeable about the disease entities. Results show that there was a statistically significant relationship between peptic ulcer disease and smoking ( $p=0.000$ ), consumption of alcohol ( $p=0.036$ ) and herbal concoctions ( $p=0.036$ ).

In another cross-sectional study by Bojuwoye et al. (2021) of students at Kwara State Polytechnic, Ilorin, Nigeria. A multistage sampling method was used for the study. Data were collected using semi-structured questionnaires from 300 students to obtain socio-demographic data and assess their knowledge about and attitude towards PUD.

Descriptive statistics were used to analyze the data and present findings in frequencies and percentages. Results: Two hundred and thirty-four (78.0%) of respondents had heard about PUD before, 250 (83.3%) of the respondent's thought PUD was a gastrointestinal disease whereas 40 (13.3%) thought it was a disease of the heart. Results show that only one (0.3%) of the respondents knew *Helicobacter pylori* as a cause of PUD, and only 17.3% believed drugs could treat PUD, with students of science-based courses being twice as likely as non-Science based students to have had prior knowledge of PUD (OR: 1.98, CI: 1.054-3.717, P=0.034).

Similar a cross-sectional study by Ikpenwa et al. (2022) of students at Enugu State University of Science and Technology. A multidisciplinary sampling approach was used for the study. Data were collected using well-structured questionnaires and blood samples from 1,500 students who fulfilled the inclusion criteria and screened for *Helicobacter pylori* antibody using rapid test kits. Descriptive and inferential data were analyzed using SPSS version 25.0, while statistical significance was tested at P-values <0.05. Results: Out of the 1,500 students tested, 964 (64.3%) were positive for *H. pylori*, with 1365 (91%) having heard of ulcer but only 577 (38.5%) had been diagnosed of ulcer previously. Results show that majority of the student participants (65.7%) knew antacid as a medication for ulcer, while about half the population (50.5%) perceived that ulcer is related to weight loss.

In a descriptive cross-sectional study by Bodunde et al. (2025) of students at a private university in Ibadan, Nigeria. A systematic sampling technique was used for the study. Data were collected using structured questionnaires from 340 students recruited from five

faculties pertaining to socio-demographics, PUD history, identified triggers, and dietary habits. Descriptive statistics were used to summarize findings and Spearman's correlation was employed to assess associations between variables using SPSS (Version 26). Results: The observed prevalence of PUD among the 340 university students was 12.4%, with a substantial majority being female (87.8%) and 43.9% being in their fourth year of study. Results show that key identified triggers included starvation (90.2%), stress (80.5%), and specific food items (85.4%), with sex, family history, starvation, and stress demonstrating a significant negative correlation with the frequency of crises ( $p < 0.05$ ).

In a cross-sectional study by DI & EU (2022) of undergraduate students at a Nigerian University. A multistage random sampling method was used for the study. Data were collected using structured questionnaires from 297 students (48% females and 52% males) on knowledge, lifestyle and dietary habits. Descriptive statistics were used to analyze and present data in frequencies and percentages. Results: The study revealed 7.9% confirmed PUD cases, with students complaining of symptoms suggestive of PUD such as bloating (23.7%), nausea (33.8%), burping (32.4%), bloody stool (15.8%) and heart burn (46.4%). Results show that about 68.2% of students with PUD had good knowledge of PUD while 44.1% practice healthy lifestyle, with no significant relationship between knowledge of healthy lifestyle in PUD and nutritional status.

**To identify the preventive practices adopted by nursing students regarding peptic ulcer disease**

In a cross-sectional study by Chinecherem et al. (2024) of clinical students at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu. A multi-stage sampling technique was used for the study. Data were collected using structured and validated questionnaires from 400 clinical students with measurements of weights and heights by interviewers. Statistical Package for the Social Sciences (SPSS) was used to analyze the data, while the significance of association was tested with Pearson chi-square at  $p < 0.05$  significance level. Results: The study showed a low risk and prevalence rate (2.9%) of eating disorders with 95.5% having a mild risk of being diagnosed with PUD. Results show that there was a statistically significant relationship between average income of participants ( $p=0.018$ ) and skipping meals ( $p=0.023$ ), as well as between peptic ulcer disease and smoking ( $p=0.000$ ), consumption of alcohol ( $p=0.036$ ) and herbal concoctions ( $p=0.036$ ).

In a descriptive cross-sectional study by Bodunde et al. (2025) of students at a private university in Ibadan, Nigeria. A systematic sampling technique was used for the study. Data were collected using structured questionnaires from 340 students recruited from five faculties on socio-demographics, PUD history, identified triggers, and dietary habits. Statistical analysis was performed using SPSS (Version 26), employing descriptive statistics to summarize findings and Spearman's correlation to assess associations between variables. Results: Regarding dietary habits, 63.4% occasionally consumed hot spicy foods, 68.3% drank carbonated beverages, 39.0% consumed fatty foods 2–3 times per week, and 29.3% consumed energy drinks. Results show that approximately half

(51.2%) of the respondents reported experiencing PUD crises 1–3 days per week, with more than half currently on medication and 12.2% having received prior treatment.

In a descriptive cross-sectional study by Hamurtekin et al. (2023) of pharmacy students at Eastern Mediterranean University and community pharmacists in North Cyprus. A volunteer-based sampling without specific sampling technique was used for first and last year pharmacy students, while registered community pharmacists were selected randomly. Data were collected using validated questionnaires from first-year pharmacy students ( $n = 77$ ), last-year students ( $n = 111$ ) and community pharmacists ( $n = 59$ ) assessing knowledge, attitude, and practices regarding PPI use. Descriptive and inferential statistics were used to analyze data with appropriate statistical tests. Results: First-year pharmacy students showed significantly lower knowledge levels than last-year students (12.00 vs. 13.65;  $P < 0.001$ ), with last year students and community pharmacists exhibiting significantly higher attitude scores regarding PPI use (24.7 and 24.6 vs. 22.7;  $P < 0.001$ ). Results show that Omeprazole was found to be the most preferred PPI among the three studied populations, with community pharmacists using PPIs mainly to treat acid reflux.

In a descriptive cross-sectional study by Nakato et al. (2023) of undergraduate students at Busitema University doing programs in Nursing, Anesthesia, and medicine in Eastern Uganda. A systematic sampling technique was used for the study. Data were collected using self-administered questionnaires from 326 participants. Descriptive statistics were used in data analysis with frequencies and percentages presentation. Results: The prevalence of self-medication with antibiotics was 93.8% ( $n = 300$ ) of which 80% were either currently using self-medication or had self-medicated in the past six months.

Results show that the common reasons for self-medication were the perception that it was a minor illness (55%), previous use of antibiotic (52%), a perception that they were health workers (50%), and the notion that they knew the right antibiotic for their condition (44%), with self-medication being most common for conditions such as peptic ulcer, diarrhea, and wound infections.

In a cross-sectional study by Najm et al. (2023) of nurses at Baghdad Teaching Hospitals for the period between 20th November 2022 to 20th April 2023. A non-probability sampling technique was used for the study. Data were collected using constructed study instruments from 50 nurses on knowledge-related prevention of peptic ulcer consisting of two parts. Data were analyzed using IBM SPSS 26.0 version, while descriptive and inductive statistics were utilized to summarize the results. Results: Half of the study samples 52% were male, 66% were age range from 19–29 years, 58% were married, 40% were graduated from college of nursing, and 76% haven't any training course. Results show that 74% of nurses have a smoking history, with the study indicating that nurses had moderate knowledge about prevention of peptic ulcer, and no significant relationships between nurse's knowledge concerning peptic ulcer and their sociodemographic characteristics.

### **To identify factors influencing knowledge and preventive practices of peptic ulcer disease among nursing students**

In a cross-sectional descriptive study by Kayemba & No (2021) of residents in Katanga community, Kampala. A systematic sampling method was used for the study where only

the 8th home took part in the research. Data were collected using questionnaires developed based on research questions from 30 respondents, with a total of 5 participants taking part in the research daily. Descriptive statistics were used to analyze data and present findings in frequencies and percentages. Results: 83.33% had good knowledge about the definition of PUD while only 16.67% had poor knowledge about definition, 43.33% had good knowledge while 56.67% had poor knowledge about the risk factors of PUD. Results show that majority (46.47%, 56.67% and 60%) eat helpful foods but sometimes, with majority (53.33% and 36.67%) practicing poor habits like alcohol consumption and smoking sometimes, indicating that good practices aren't effectively done yet the bad practices towards PUD management have given a big part in their lifestyles.

In a cross-sectional observational, survey-based study by Issa et al. (2022) of Saudi adults in Taif. A systematic sampling technique was used for the study. Data were collected using validated survey instruments from participants to assess knowledge, awareness, and practices regarding risk factors and management of peptic ulcer. Descriptive and inferential statistics were used to analyze data, with median scores calculated for knowledge and practice assessments. Results: Thirty-six of the participants were aged 18-30 years, with 60.1% being males, 61.0% married, 50.3% employed, and 94.2% Saudi nationals. Results show that the median practice score was 7 out of 14 points, with significantly higher median practice scores observed among participants aged more than 40 years ( $p$ -value  $< 0.001$ ), male participants ( $p$ -value  $< 0.001$ ),

unemployed (p-value < 0.001), and participants with chronic diseases (p-value 0.007), while the median knowledge score was 10 out of 31 points.

In a cross-sectional study by Edyedu et al. (2024) of patients with perforated peptic ulcers in Uganda hospitals. A consecutive sampling technique was used for the study. Data were collected using structured pretested questionnaires from 81 consecutive patients with perforated peptic ulcers to obtain social demographic and clinical characteristics. Logistic regression was performed in SPSS version 22 to determine the factors associated with the anatomical patterns. Results: Perforated peptic ulcer disease was more prevalent among males (79.5%), peasants (56.8%) and those from rural areas (65.4%), with majority of study participants being of blood group O (43.2%). Results show that gastric perforations were more common (74.1%) with majority of the perforations found anteriorly (81.5%), and being a casual laborer was independently associated with lower odds of having a gastric perforation compared to being a peasant farmer ( $P < 0.05$ ).

In an online cross-sectional survey by Al-Mehmadi et al. (2023) of residents in all five regions of Saudi Arabia regardless of nationality. A convenience sampling technique was used for the study. Data were collected using online surveys distributed in both Arabic and English languages through social media platforms to approach individuals from different backgrounds. Descriptive and inferential statistics were used to analyze data with correlation analysis performed. Results: There were 784 participants, of which 6.1% were non-Saudis and 93.9% were Saudis, with 63.5% of participants selecting "H. Pylori" as a risk factor that may lead to PUD. Results show that there was a statistically

significant correlation ( $p=0.03$ ) between knowing what *H. pylori* are and the respondents' level of education, with only 32.8% of the participants knowing about *H. Pylori* transmission, and only 50% of smokers being aware that smoking contributed to the pathogenesis of PUD.

In a cross-sectional study by Maqbul et al. (2025) of residents in Jeddah, Saudi Arabia. A convenience sampling technique was used for the study. Data were collected using validated questionnaires translated into Arabic and culturally adapted from 561 participants covering demographic details, knowledge, psychosocial aspects, symptoms, healthcare-seeking behavior, and medical history. Data was analyzed with SPSS and Excel, employing both descriptive and inferential statistical methods. Results: Demographic analysis showed 561 participants, almost evenly split by gender (269 males, 292 females), with varying ages and educational backgrounds. Results show that symptoms like abdominal pain were prevalent (398 respondents), as were lifestyle factors such as spicy food consumption (456 respondents) and stress (496 respondents), with the study revealing a high PUD prevalence where 463 respondents (82.53%) reported a history of the disease.

### **To identify knowledge gaps and misconceptions about peptic ulcer disease among nursing students**

In a comprehensive review study by Bornschein & Pritchard (2022) of myths and misconceptions in the management of *Helicobacter pylori* infection globally. A systematic literature review methodology was used for the study. Data were collected

from multiple databases and clinical sources to identify five key myths and misconceptions requiring re-evaluation. Qualitative analysis was used to synthesize findings and present evidence-based recommendations. Results: The study identified that although the prevalence of *H. pylori* infection is decreasing in some developed countries, it remains a huge global problem with gastric adenocarcinoma still being a major cause of mortality. Results show that eradication of *H. pylori* infection has become much more difficult over recent years as a result of the widespread acquisition of antibiotic resistance, with routine assessment of the success of eradication now needing to be performed, and increased awareness about the role of *H. pylori* in the multistep pathway of gastric carcinogenesis being crucial.

In a scoping review by Ribaudi et al. (2025) following the Arksey and O'Malley framework and PRISMA 2020 guidelines. A systematic search methodology was used for the study. Data were collected from three databases (PubMed, Web of Science, and SCOPUS) for studies published between 2003 and 2024 involving adults ( $\geq 18$  years) with IBD focusing on nutritional knowledge. Qualitative synthesis was used to analyze findings from included studies. Results: From 1440 records initially identified, 23 studies met the inclusion criteria, highlighting that IBD patients often base dietary decisions on personal beliefs rather than evidence-based guidelines. Results show that misconceptions such as avoiding dairy, gluten, and fiber without professional advice were prevalent, with educational interventions including personalized counseling and group sessions showing potential to improve nutritional knowledge and symptom management, though their application remains inconsistent across settings.

In a cross-sectional study by Alali et al. (2025) of adult residents in Al-Ahsa, Saudi Arabia from September to December 2023. A convenient nonprobability sampling technique was used for the study. Data were collected using online self-administered questionnaires distributed through social media platforms from 399 adult residents who agreed to participate. Data were analyzed using SPSS, with qualitative data presented as numbers and percentages and Chi-square test used to examine qualitative data between groups. Results: Of the 399 participants, 71.4% demonstrated a good level of knowledge regarding PUD, whereas 28.6% had a low level of knowledge, with the sample consisting of nearly equal numbers of males and females aged 18–55+ years. Results show that the majority of participants had attained a bachelor's degree and were employed, suggesting a relatively high level of education among the study population, yet significant knowledge gaps still existed in specific areas of PUD understanding.

### **Summary of Literature Review**

This literature review has established that while nursing students possess foundational knowledge of PUD, critical gaps exist in their understanding and application, especially in relation to etiology, treatment, and prevention. Factors such as year of study, quality of teaching, and clinical exposure significantly influence their knowledge levels. Emphasis should be placed on enhancing educational content, integrating simulation training, and adopting behavioral models like HBM to encourage better self-care and professional competence.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter details of the description of the research design, research setting, target population, sample and sampling technique, instrument for data collection, methods of data collection and analysis used in the study.

#### **3.1 Research Design**

This study adopted a descriptive cross-sectional research design to examine the knowledge and preventive practices of peptic ulcer disease among nursing students in a tertiary institution. This design was selected to provide a comprehensive overview of

current knowledge levels, preventive behaviors, and preventive strategies without manipulating any variables. It allowed for an in-depth understanding of the factors influencing students' health behaviors and practices related to peptic ulcer disease within the academic environment of the University of Benin in Benin City, Nigeria.

### **3.2 Research setting**

The study was conducted at the University of Benin, Department of Nursing Sciences, located at Ugbowo in Ovia North-East Local Government Area of Edo state. Which is one of Nigeria's leading nursing education institutions. The University of Benin, a tertiary institution established in 1970, initially operated as an Institute of Technology before being granted full university status by the National Universities Commission (NUC) on 1st July 1971. Today, the university has a student population exceeding 77,000, comprising both full-time and part-time students across various faculties.

The department of Nursing Science commenced in the 2007/2008 academic session as department with an initial intake of 20 students through the Joint Matriculation Examination and Post University Matriculation Examination. However, during the 2007 Resource Validation Exercise, the department did not meet all the necessary criteria due to an inadequate number of academic staff. After addressing the deficiencies, the department reapplied for verification, and in 2011, the NUC conducted a successful accreditation exercise which led to the accreditation of nursing sciences at the University of Benin.

Today, the Department of Nursing Science is one of the most sought-after programs at the University of Benin, boasting over 854 full-time undergraduate students, a team of

qualified academic and non-academic staff, and adjunct lecturers. The university provides a conducive learning environment for nursing students, exposing them to both theoretical and practical knowledge. This setting was chosen due to its diverse student population, which will help generate representative and generalizable findings.

### **3.3 Target population of the study**

Target population refers to the entire group of individuals to which researchers are interested in generalizing conclusions. The target population for this study consists of 701 undergraduate nursing students from 200 level to 500 level in the Department of Nursing Science, University of Benin (UNIBEN), Benin City, Edo State. These students, at different stages of their nursing education and training, are suitable participants for examining the relationship between emotional intelligence and critical thinking disposition.

**Table 3.3.1: Study of The Target Population**

<b>ACADEMIC LEVEL</b>	<b>TOTAL NUMBER OF STUDENTS</b>
200 level	177
300 level	190
400 level	174
500 level	160
Total	701

### **3.4 Sample size**

The sample size will be determined using Yamane's (1967) formula: where:

$$n = \frac{N}{1 + N(e)^2}$$

- $n$  = sample size
- $N$  = total population size (estimated nursing students at the University of Benin)
- $e$  = margin of error (0.05 for 95% confidence level).

Based on preliminary enrollment data, the estimated sample size will be calculated accordingly. Assuming a 95% confidence level, a margin of error of 5% (0.05) and estimated nursing students at the University of Benin from 200 to 500 level is 701.

**Calculate the total population size (N):**

$$N = \text{Level 2} + \text{Level 3} + \text{Level 4} + \text{level 5}$$

$$= 177 + 190 + 174 + 160$$

$$= 701$$

**Calculate the sample size (n) using the formula:**

$$n = \frac{N}{1 + N(e)^2}$$

Substituting the values into the formula

$$n = \frac{701}{1 + 701 (0.05)^2}$$

$$n = \frac{709}{1 + 701 (0.0025)}$$

$$n = \frac{701}{1 + 1.7525}$$

$$n = \frac{701}{2.7525}$$

$$n = 254.7$$

$$n \approx 255$$

Therefore, the required sample size for this study is 255 nursing students.

### 3.5 Sampling Technique

A stratified random sampling technique was employed to ensure equal representation of students across different academic levels. Stratification was based on year of study to ensure that students at different levels of training were adequately represented..

**Table 3.3.2: Study of the Stratified Sampling of Nursing Students at the University of Benin**

Academic Level	Population Size (N)	Proportion (%)	Sample Size (n)
<b>200 Level</b>	177	$(177 \div 701) \times 100 = 25.25\% \approx 25\%$	$0.25 \times 255 = 63.75$ $n \approx 64$
<b>300 level</b>	190	$(190 \div 701) \times 100 = 27.10\% \approx 27\%$	$0.27 \times 255 = 68.85$ $n \approx 69$

<b>400 level</b>	174	$(174 \div 701) \times 100 = 24.82\% \approx 24\%$	$0.2482 \times 255 = 63.29$ $n \approx 63$
<b>500 level</b>	160	$(160 \div 701) \times 100 = 22.82\% \approx 23\%$	$0.23 \times 255 = 58.65$ $n \approx 59$
<b>Total</b>	<b>701</b>	<b>100%</b>	<b>255</b>

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A proportional random sampling method will then be used to select participants within each stratum. And the researcher will explain the purpose of the study to them. Respondents who meet the inclusion criteria and also indicate interest in participating in the study will be recruited for the study

### 3.6 Instrument for Data Collection

A self-constructed Likert scale questionnaire was the instrument for collecting the data from the respondents. The questions were carefully, developed to provide a comprehensive understanding of the topic, ensuring relevance to the study and addressing the research questions. The questionnaire will be divided into four sections:

Section A: Demographic Information

Section B: Level of Knowledge of Peptic Ulcer Disease

Section C: preventive practices adopted by nursing students regarding peptic ulcer disease.

Section D: factors influencing knowledge and preventive practices of peptic ulcer disease among nursing students

Section E: knowledge gaps and misconceptions about peptic ulcer disease

### **3.7 Validity of the Instrument**

Validity referred to the extent to which an instrument accurately measured what it was intended to measure. In this study, validity was a key criterion in ensuring that the questionnaire effectively assessed nursing students' knowledge and management practices related to peptic ulcer disease. Content validity was established by ensuring that each question aligned with the study objectives and accurately captured the constructs being assessed, such as awareness of risk factors, preventive behaviors, and treatment practices. The questionnaire was carefully reviewed to eliminate ambiguity and ensure clarity of language. Additionally, face validity was ensured by structuring the questionnaire in a logical, sequential, and organized format, with questions focused on relevant and applicable areas of the topic. The instrument was reviewed and validated by the project supervisor and a member of the research and ethics committee to confirm its relevance and appropriateness for the target population.

### **3.8 Reliability of the Instrument**

Reliability was seen as a test that was carried out to provide the same results for the correlation between emotional intelligence and critical thinking disposition if measured again by the same scale. A pilot study was conducted using 70 (10% of the total population) undergraduate nursing students from a different university to test the reliability and feasibility of the research instruments. The reliability of the instrument was confirmed using Cronbach's Alpha value of 0.7. Cronbach's Alpha was a coefficient of

internal consistency and was commonly used as an estimate of the reliability of psychometric tests. A Cronbach's Alpha value was considered reliable when it was 0.7 or higher, indicating that the instrument produced consistent results when administered multiple times under similar conditions.

### **3.9 Method of Data Collection**

**Data for the study were collected through online questionnaire to the respondents. The purpose of the study was carefully explained to the participants to gain their confidence and ensure the objectivity of their responses.**

### **3.10 Method of Data Analysis**

The collected data were entered into the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics such as frequency, percentages, mean, and standard deviation will be used to summarize the data. Inferential statistics, including Chi-square tests and Pearson's correlation, will be applied to examine relationships between knowledge and management practices. A p-value of less than 0.05 will be considered statistically significant

### **3.11 Ethical Considerations**

**Informed consent:** Written informed consent was obtained from all participants before data collection. They were informed of the study's objectives, the voluntary nature of participation, and their right to withdraw at any time.

**Confidentiality:** All data collected were kept confidential and used solely for research purposes. Participants' identities were not disclosed.

**Approval:** Ethical approval was sought from the Ethics and Research Committee of the College of Medical Science, University of Benin before the commencement of the study to ensure compliance with ethical guidelines in human research.

## **CHAPTER FOUR**

### **RESULTS**

This chapter presents the analysis and interpretation of data collected on the knowledge and preventive practices regarding peptic ulcer disease among nursing students in a tertiary health institution in Benin City, Edo State. A total of 255 questionnaires were distributed to undergraduate nursing students from 200 to 500 level in the Department of

Nursing Science, University of Benin. Out of these, 249 were properly filled and deemed valid for analysis, resulting in a response rate of 97.6%.

**Table 4.1: Socio-demographic characteristics of respondents**

Variable	Categories	Frequency (249)	Percentage (%)
Age (years)	16–20	60	24.1
	21–25	129	51.8
	26–30	54	21.7
	Above 30	6	2.41
Gender	Male	15	6.02
	Female	234	94
Marital Status	Single	243	97.6
	Married	6	2.41
Religion	Christianity	237	95.2
	Islam	9	3.61
	Other	3	1.2
Ethnic Group	Igbo	45	18.1
	Yoruba	72	28.9
	Hausa	0	0
	Bini	87	34.9
	Other	45	18.1
Place of Residence	On campus	84	33.7
	Off campus	165	66.3

**Table 4.1** presents the socio-demographic characteristics of the 249 nursing students who participated in the study on knowledge and preventive practices regarding peptic ulcer disease in a tertiary health institution in Benin City. With respect to age distribution, the majority of respondents were within the age group of 21–25 years (51.8%), followed by those aged 16–20 years (24.1%), and 26–30 years (21.7%), while only 2.4% were above 30 years. In terms of gender, most of the respondents were female (94%), whereas males accounted for only 6.0%. Regarding marital status, almost all respondents were single

(97.6%), while only 2.4% were married. In relation to religion, the vast majority were Christians (95.2%), with 3.6% identifying as Muslims and 1.2% belonging to other faiths. For ethnic distribution, more than one-third of the participants were Bini (34.9%), followed by Yoruba (28.9%), and Igbo (18.1%). Another 18.1% of respondents identified with other ethnic groups, while none reported Hausa ethnicity. With respect to place of residence, most respondents lived off campus (66.3%), whereas 33.7% resided on campus.

### Answering Research Questions

**Research Question 1:** What is the level of knowledge of peptic ulcer disease among nursing students of the University of Benin?

**Table 4.2: Knowledge of Peptic Ulcer Disease among Nursing Students (n = 249)**

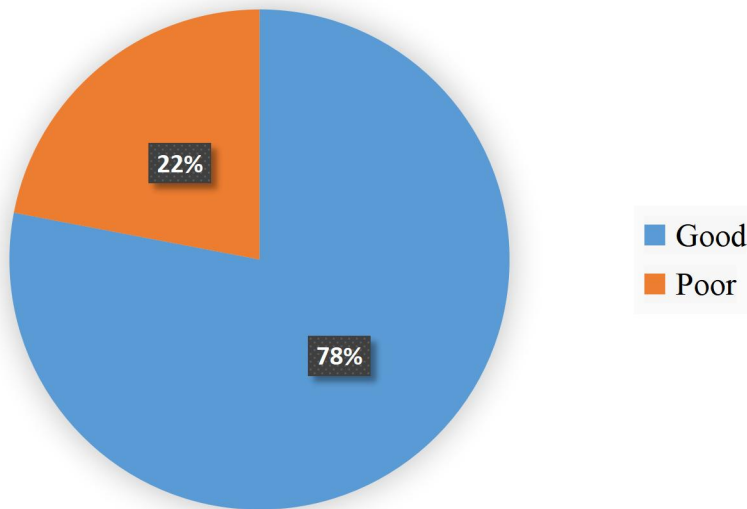
S/N	Question	Frequency %	Correct	Wrong	Mean	Decision
1	Have you ever heard of peptic ulcer disease before?	Yes (213, 85.5%) No (36, 14.5%)	213 (85.5%)	36 (14.5%)	0.86	Good
2	Which organism is most commonly associated with peptic ulcer disease?	H. pylori (186, 74.7%) Others (63, 25.3%)	186 (74.7%)	63 (25.3%)	0.75	Good
3	What are typical symptoms of peptic ulcer disease?	Burning stomach pain, bloating, black stools (240, 96.4%) Seizures (9, 3.6%)	240 (96.4%)	9 (3.6%)	0.96	Good
4	What is the most common cause of peptic ulcers globally?	H. pylori (174, 69.9%) Others (75, 30.1%)	174 (69.9%)	75 (30.1%)	0.70	Good
5	Which of the following can lead	NSAIDs, Stress, H. pylori (237, 95.2%)	237 (95.2%)	12 (4.8%)	0.95	Good

	to peptic ulcer formation?	Balanced diet (12, 4.8%)					
6	Peptic ulcer is a condition affecting which part of the body?	Stomach/duodenum (195, 78.3%) Others (54, 21.7%)	195 (78.3%)	54 (21.7%)	0.78	Good	
7	A common test used to detect peptic ulcer is:	Endoscopy (192, 77.1%) Others (57, 22.9%)	192 (77.1%)	57 (22.9%)	0.77	Good	
8	Which of the following is a complication of untreated peptic ulcer?	Perforation, Anemia (216, 86.7%) Hypertension, Jaundice (33, 13.3%)	216 (86.7%)	33 (13.3%)	0.87	Good	
9	H. pylori can be transmitted through:	Contaminated food/water (129, 51.8%) Others (120, 48.2%)	129 (51.8%)	120 (48.2%)	0.52	Fair	
10	Prolonged use of painkillers such as ibuprofen can cause peptic ulcers.	True (159, 63.9%) False/Don't know (90, 36.1%)	159 (63.9%)	90 (36.1%)	0.64	Fair	

**Cutoff:  $\geq 0.70$  = Good,  $0.50-0.69$  = Fair,  $< 0.50$  = Poor**

**Table 4.2** presents the distribution of respondents based on their knowledge of peptic ulcer disease (PUD). Among the 249 nursing students surveyed, 85.5% reported having heard of PUD, while 14.5% had not, giving a mean score of 0.86 which indicates good knowledge. Similarly, 74.7% correctly identified *Helicobacter pylori* as the causative organism, while 25.3% responded otherwise, reflecting good knowledge (mean = 0.75). In terms of symptoms, 96.4% recognized burning stomach pain, bloating, and black stools, while 3.6% incorrectly selected seizures, yielding the highest mean score of 0.96. Regarding the global cause of peptic ulcer, 69.9% correctly identified *H. pylori*, while 30.1% chose other options, producing a mean score of 0.70. Similarly, 95.2% recognized NSAIDs, stress, and *H. pylori* as risk factors, while 4.8% selected a balanced diet,

yielding a mean of 0.95. On affected organs, 78.3% correctly identified the stomach/duodenum, while 21.7% answered otherwise, producing a mean score of 0.78. For diagnosis, 77.1% correctly selected endoscopy, while 22.9% chose other options (mean = 0.77). On complications, 86.7% correctly indicated perforation and anemia, while 13.3% gave wrong responses, resulting in a mean of 0.87. Knowledge was weaker in some areas: only 51.8% identified contaminated food and water as a transmission route for *H. pylori* (mean = 0.52), and 63.9% recognized prolonged NSAID use as a cause (mean = 0.64), both reflecting fair knowledge.



**Figure 4.1: Knowledge of Peptic Ulcer Disease among Nursing Students**

The pie chart shows that 194 respondents (78.0%) demonstrated a good level of knowledge, while 55 respondents (22.0%) had poor knowledge out of a total sample size of 249 on peptic ulcer disease among nursing students.

**Research Question 2:** What preventive practices are adopted by nursing students regarding peptic ulcer disease?

**Table 4.3: Preventive Practices of Peptic Ulcer Disease among Nursing Students**

<b>Preventive Practice Statement</b>	<b>Always</b>	<b>Sometimes</b>	<b>Rarely</b>	<b>Never</b>	<b>Mean</b>	<b>Decision</b>
I eat on time each day.	72 (28.9%)	114 (45.8%)	57 (22.9%)	6 (2.4%)	0.76	Good
I avoid using painkillers (e.g., ibuprofen) without medical advice.	96 (38.6%)	93 (37.3%)	45 (18.1%)	15 (6.0%)	0.82	Good
I avoid skipping meals during academic stress.	42 (16.9%)	138 (55.4%)	54 (21.7%)	15 (6.0%)	0.71	Good
I take steps to manage academic stress.	78 (31.3%)	87 (34.9%)	63 (25.3%)	21 (8.4%)	0.72	Good
I use antacids or ulcer medications only when prescribed.	78 (31.3%)	81 (32.5%)	54 (21.7%)	36 (14.5%)	0.70	Good
I consume alcohol regularly.	12 (4.8%)	30 (12.0%)	78 (31.3%)	129 (51.8%)	0.42	Poor
I smoke or use tobacco products.	6 (2.4%)	18 (7.2%)	66 (26.5%)	159 (63.9%)	0.37	Poor
I avoid spicy/acidic foods when experiencing	48 (19.3%)	108 (43.4%)	54 (21.7%)	39 (15.7%)	0.66	Fair

abdominal discomfort. I drink plenty of water daily to support digestion.	114 (45.8%)	81 (32.5%)	36 (14.5%)	18 (7.2%)	0.79	Good
I consult a healthcare provider if I have ulcer symptoms.	81 (32.5%)	63 (25.3%)	72 (28.9%)	33 (13.3%)	0.69	Fair

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**Grand mean = 0.66, Mean cut-off = 0.50**

Table 4.3 presents the preventive practices of peptic ulcer disease (PUD) among nursing students. The results show varied adherence to healthy practices. With respect to dietary habits, 28.9% of respondents reported always eating on time, while 45.8% sometimes did so; overall, this practice recorded a mean of 0.76, indicating good adherence. Similarly, avoidance of unprescribed painkillers such as ibuprofen was well-practiced, with 38.6% always and 37.3% sometimes complying, yielding a mean of 0.82, also rated good. In terms of meal patterns during academic stress, 55.4% sometimes avoided skipping meals, and 16.9% always did so, giving a mean of 0.71, which reflects good practice. Stress management was another area of strength, as 31.3% always and 34.9% sometimes took steps to manage stress, producing a mean of 0.72 (good).

Medication use showed that 31.3% always and 32.5% sometimes used antacids only when prescribed, with a mean of 0.70 (good). In contrast, lifestyle risks were poorly practiced: only 4.8% reported always consuming alcohol, while 51.8% never did, yielding a poor mean score of 0.42. Similarly, 63.9% never smoked, but the overall mean of 0.37 indicated poor adherence. On dietary precautions, 43.4% sometimes avoided spicy/acidic foods, while 19.3% always did, giving a fair mean of 0.66. Good practice

was observed in water intake, with 45.8% always and 32.5% sometimes drinking plenty of water, yielding a mean of 0.79. Finally, consulting healthcare providers when experiencing symptoms was fair, as 32.5% always did, but 28.9% rarely did, giving a mean of 0.69.

**Research Question 3:** What factors influence the knowledge and preventive practices of peptic ulcer disease among nursing students?

**Table 4.4: Factors influencing knowledge and preventive practices of peptic ulcer disease**

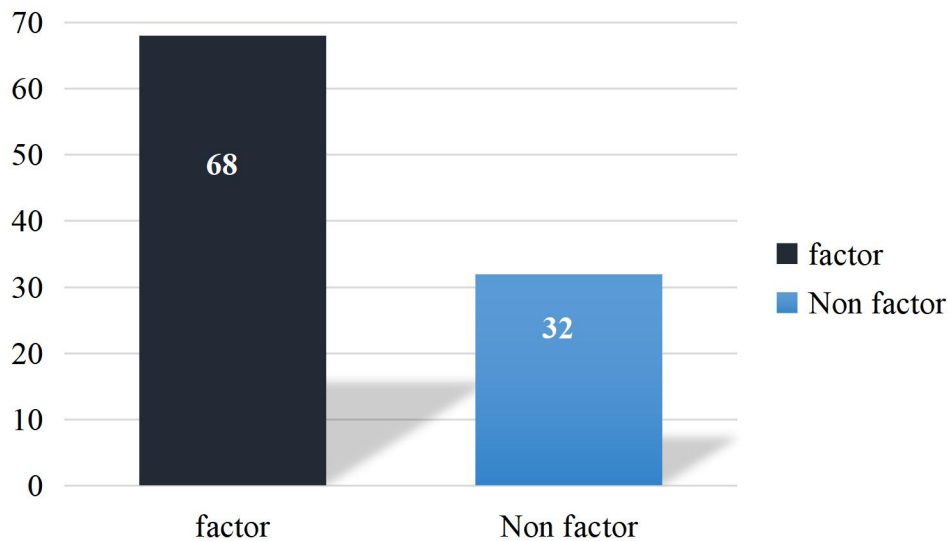
Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Decision
My level of study has helped me better understand peptic ulcer disease.	120 (48.2%)	93 (37.3%)	27 (10.8%)	9 (3.6%)	3.30	Factor
The nursing curriculum has adequately covered peptic ulcer disease.	60 (24.1%)	135 (54.2%)	27 (10.8%)	27 (10.8%)	2.92	Factor
My academic workload affects my ability to eat properly and on time.	93 (37.3%)	96 (38.6%)	45 (18.1%)	15 (6.0%)	3.07	Factor
Financial constraints prevent me from seeking appropriate treatment for ulcer-related symptoms.	84 (33.7%)	90 (36.1%)	48 (19.3%)	27 (10.8%)	2.93	Factor
I rely on personal experience and observation for my understanding of ulcer management.	63 (25.3%)	84 (33.7%)	78 (31.3%)	24 (9.6%)	2.75	Factor
Social media and internet sources have influenced my knowledge about peptic ulcer disease.	42 (16.9%)	108 (43.4%)	63 (25.3%)	36 (14.5%)	2.73	Factor
Peer discussions have	27	129	42	51	2.53	Factor

contributed to my knowledge of ulcer symptoms and preventive practices.	(10.8%)	(51.8%)	(16.9%)	(20.5%)		
Cultural or traditional beliefs influence how I perceive and respond to ulcer symptoms.	18 (7.2%)	87 (34.9%)	78 (31.3%)	66 (26.5%)	2.23	Not a Factor
I am more likely to take preventive action when ulcer symptoms are discussed in class or during clinical postings.	48 (19.3%)	123 (49.4%)	60 (24.1%)	18 (7.2%)	2.81	Factor
I find it easier to adopt preventive practices when supported by accessible healthcare services.	75 (30.1%)	126 (50.6%)	42 (16.9%)	6 (2.4%)	3.09	Factor

**Grand mean = 2.84 Mean cut-off = 2.50**

Table 4.4 presents factors that influence nursing students' knowledge and preventive practices of peptic ulcer disease. A majority of the respondents (48.2% strongly agree, 37.3% agree) indicated that their level of study helped them better understand peptic ulcer disease, with a mean score of 3.30, making it a factor. Similarly, 54.2% agreed that the nursing curriculum adequately covered peptic ulcer disease, yielding a mean score of 2.92, also identified as a factor. Academic workload was also highlighted as a factor, with 37.3% strongly agreeing and 38.6% agreeing that it affects their ability to eat properly and on time, producing a mean of 3.07. Financial constraints were another important factor, as 33.7% strongly agreed and 36.1% agreed that lack of finances limited their ability to seek treatment, giving a mean of 2.93. Personal experience and observation (mean = 2.75), social media and internet sources (mean = 2.73), and peer discussions (mean = 2.53) were also rated as factors influencing their knowledge of ulcer disease and its prevention. However, cultural and traditional beliefs were not considered a factor, with a lower mean of 2.23, as more respondents disagreed (31.3%) or strongly

disagreed (26.5%). Finally, preventive action was more likely when ulcer symptoms were discussed in class or clinical postings (mean = 2.81), and accessible healthcare services also played a major role (mean = 3.09).



**Figure 4.2: Factors influencing knowledge and preventive practices of peptic ulcer disease**

The bar chart shows that 169 respondents (67.9%) identified factors influencing knowledge and preventive practices of peptic ulcer disease, while 80 respondents (32.1%) considered them as non-factors out of a total sample size of 249.

**Research Question 4:** What knowledge gaps and misconceptions exist among nursing students about peptic ulcer disease?

**Table 4.5: Misconceptions about Peptic Ulcer Disease among Nursing Students**

<b>Question</b>	<b>Frequency %</b>	<b>Correct</b>	<b>Wrong</b>	<b>Mean</b>	<b>Decision</b>
Peptic ulcer disease only affects older adults.	False (153, 61.5) Others (96, 38.5)	153 (61.5%)	96 (38.5%)	0.62	Fair
Drinking milk frequently cures peptic ulcer.	False (141, 56.6) Others (108, 43.4)	141 (56.6%)	108 (43.4%)	0.57	Fair
Stress alone is enough to cause peptic ulcer disease.	False (105, 42.2) Others (144, 57.8)	105 (42.2%)	144 (57.8%)	0.42	Poor
Spicy foods are the main cause of ulcer.	False (159, 63.9) Others (90, 36.1)	159 (63.9%)	90 (36.1%)	0.64	Good
All stomach pain is a sign of ulcer.	False (201, 80.7) Others (48, 19.3)	201 (80.7%)	48 (19.3%)	0.81	Good
Once ulcer symptoms go away, no treatment is needed.	False (138, 55.4) Others (111, 44.6)	138 (55.4%)	111 (44.6%)	0.55	Fair
Peptic ulcer disease cannot recur once treated.	False (126, 50.6) Others (123, 49.4)	126 (50.6%)	123 (49.4%)	0.51	Fair
Peptic ulcer disease can be transmitted from person to person.	False (147, 59.0) Others (102, 41.0)	147 (59.0%)	102 (41.0%)	0.59	Fair
Natural herbs are always effective in curing peptic ulcer disease.	False (126, 50.6) Others (123, 49.4)	126 (50.6%)	123 (49.4%)	0.51	Fair
Antacids alone are enough to completely cure all types of ulcers.	False (144, 57.8) Others (105, 42.2)	144 (57.8%)	105 (42.2%)	0.58	Fair

**Grand mean= 0.58 Mean cut off = 0.50**

Table 4.5 presents nursing students' misconceptions about peptic ulcer disease. A majority of the respondents (61.5%) correctly disagreed with the misconception that peptic ulcer disease only affects older adults, yielding a mean score of 0.62, rated fair.

Similarly, 56.6% disagreed with the belief that drinking milk frequently cures ulcers, with a mean score of 0.57, also fair. On stress as a sole cause of ulcer, only 42.2% answered correctly, while 57.8% gave wrong responses, producing a mean of 0.42, rated poor. Conversely, 63.9% disagreed with the statement that spicy foods are the main cause of ulcer, resulting in a mean of 0.64, which was good. The strongest correct response appeared in the statement that “all stomach pain is a sign of ulcer,” where 80.7% disagreed, giving a mean of 0.81 and a good rating. Regarding the claim that no treatment is needed once symptoms subside, 55.4% responded correctly, yielding a mean of 0.55, rated fair. Similarly, 50.6% correctly disagreed that ulcer cannot recur after treatment, with a mean of 0.51, also fair. The misconception that ulcers can be transmitted person-to-person was rejected by 59.0% of respondents (mean = 0.59, fair). Belief in natural herbs (mean = 0.51) and reliance on antacids alone (mean = 0.58) were also rated fair. Overall, findings reveal good knowledge in limited areas, but persistent misconceptions remain on causes and management.

**Table 4.6: Hypothesis testing**

<b>Knowledge Level</b>	<b>Preventive Practice</b>	<b>Observed (O)</b>	<b>Expected (E)</b>	<b>(O-E)<sup>2</sup> / E</b>	<b>df</b>	<b><math>\alpha</math>( 0.05)</b>
Good (194)	Good	140	116.9	5.04		
Good (194)	Fair/Poor	54	77.1	6.92		
Poor (55)	Good	10	33.1	16.12		
Poor (55)	Fair/Poor	45	21.9	24.38		
<b>Total <math>\chi^2</math></b>				<b>52.46</b>	<b>1</b>	<b>3.841</b>

The calculated  $\chi^2$  (52.46) exceeds the critical value (3.841), so the null hypothesis is rejected.

This indicates a significant relationship between nursing students' knowledge of peptic ulcer disease and their preventive practices.

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS**

This chapter discusses the major findings of the research compared with the literature reviewed, the implication for nursing, summary, conclusion, Recommendations and Suggestions for further Studies.

#### **5.1 Discussion of major findings**

##### **Level of Knowledge of Peptic Ulcer Disease Among Nursing Students**

This study revealed that 78% of nursing students at the University of Benin demonstrated good knowledge of peptic ulcer disease, which aligns favorably with findings from previous Nigerian studies. The 85.5% awareness rate found in this study is consistent with Ikpenwa et al. (2022), who reported 91% awareness among students at Enugu State University of Science and Technology. However, this represents a marked improvement over Bojuwoye et al. (2021), who found only 78% awareness among polytechnic students in Kwara State. The strong performance in symptom recognition (96.4% correct responses) and understanding of *H. pylori* as a causative agent (74.7%) contrasts sharply with earlier studies. Notably, this finding represents a dramatic improvement from Bojuwoye et al. (2021), where only 0.3% of respondents correctly identified *H. pylori* as a cause of PUD. This substantial difference may reflect the enhanced nursing curriculum

at the University of Benin or improved educational resources available to nursing students compared to polytechnic students.

However, knowledge gaps persist in specific areas, particularly regarding *H. pylori* transmission mechanisms (51.8% correct) and the relationship between NSAIDs and ulcer formation (63.9% correct). These findings echo the concerns raised by Bornschein & Pritchard (2022) about persistent misconceptions in *H. pylori* management globally, suggesting that even in academic settings, comprehensive understanding of disease mechanisms remains challenging.

### **Preventive Practices Adopted by Nursing Students**

The preventive practices among University of Benin nursing students showed mixed adherence patterns, with a grand mean of 0.66 indicating moderate overall compliance. Strong practices were observed in avoiding unprescribed painkillers (mean = 0.82) and maintaining adequate hydration (mean = 0.79), which contrasts with the concerning self-medication behaviors reported by Nakato et al. (2023) in Uganda, where 93.8% of health science students engaged in antibiotic self-medication. Dietary practices revealed both strengths and areas for improvement. While 74.7% of students practiced timely eating habits, only 66% consistently avoided spicy or acidic foods during abdominal discomfort. This finding aligns with Bodunde et al. (2025), who identified starvation (90.2%) and specific food items (85.4%) as major triggers among university students in Ibadan. The current study's finding that academic workload significantly affects eating patterns (mean = 3.07) supports this connection between academic stress and poor dietary practices.

Lifestyle risk factors showed encouraging trends, with low rates of alcohol consumption (mean = 0.42) and smoking (mean = 0.37), which contrasts with Najm et al. (2023), who found 74% of nurses in Baghdad had smoking histories. This difference may reflect generational changes, improved health awareness among nursing students, or cultural differences between the study populations.

### **Factors Influencing Knowledge and Preventive Practices**

Several key factors emerged as significant influences on nursing students' knowledge and practices. The level of study was identified as the strongest factor (mean = 3.30), supporting findings by Chinecherem et al. (2024) that clinical exposure enhances understanding. This aligns with educational theory suggesting that progressive clinical training improves both theoretical knowledge and practical application. Financial constraints emerged as a significant barrier (mean = 2.93), which resonates with findings from multiple Nigerian studies. DI & EU (2022) reported no significant relationship between knowledge and nutritional status, suggesting that financial limitations may prevent the translation of knowledge into healthy practices. This finding is particularly relevant in the Nigerian context, where healthcare costs can be prohibitive for students.

The role of curriculum adequacy (mean = 2.92) as an influencing factor supports recommendations from the literature review summary, which emphasized the need for enhanced educational content and integration of simulation training. However, the finding that cultural and traditional beliefs were not considered significant factors (mean = 2.23) contrasts with broader literature on health-seeking behaviors in Nigerian

populations, possibly reflecting the scientific orientation of nursing education. Social media and internet sources showed moderate influence (mean = 2.73), which aligns with contemporary trends in health information seeking. This finding suggests both opportunities and risks, as highlighted by Ribaudi et al. (2025), who noted that patients often base dietary decisions on personal beliefs rather than evidence-based guidelines obtained through social media.

### **Knowledge Gaps and Misconceptions About Peptic Ulcer Disease**

The identification of persistent misconceptions (grand mean = 0.58) reveals critical areas requiring educational intervention. The most concerning finding was the poor understanding of stress as a sole causative factor (mean = 0.42), with 57.8% of students incorrectly believing stress alone can cause peptic ulcers. This misconception aligns with Alali et al. (2025), who found significant knowledge gaps despite 71.4% of participants demonstrating good overall PUD knowledge. The misconception about spicy foods as the main cause of ulcers was better addressed (63.9% correct), suggesting some progress in dispelling traditional beliefs. However, this finding still indicates that over one-third of nursing students maintain incorrect beliefs about dietary causation, which could affect their future patient education practices.

Treatment-related misconceptions were particularly concerning, with nearly half of students (44.6%) believing that symptom resolution indicates cure completion, and 49.4% thinking ulcers cannot recur after treatment. These findings echo Bornschein & Pritchard's (2022) emphasis on the need for routine assessment of eradication success and

increased awareness about *H. pylori*'s role in gastric carcinogenesis pathways. The moderate performance in identifying transmission misconceptions (59% correct) suggests ongoing confusion about *H. pylori* spread, which has significant implications for prevention counseling. This finding supports the literature review's conclusion that critical gaps exist in understanding etiology and prevention, despite foundational knowledge being present.

These findings collectively indicate that while University of Benin nursing students demonstrate better overall knowledge compared to some previous studies, significant educational interventions are needed to address persistent misconceptions and translate knowledge into consistent preventive practices, particularly in areas of disease mechanism understanding and evidence-based treatment approaches.

## 5.2 Implications to Nurses

The findings of this study have important implications for nursing practice, education, and administration. For practicing nurses, gaps in knowledge about *Helicobacter pylori* transmission and NSAID-related ulcer formation emphasize the need for continuous professional development and evidence-based updates. Misconceptions about stress as the sole causative factor and incomplete treatment could negatively affect patient education and outcomes. For nursing education, the results show that although students demonstrated fair knowledge, misconceptions remain that require targeted teaching. The strong influence of curriculum adequacy and level of study highlights the responsibility of nursing schools to provide comprehensive coverage of peptic ulcer disease prevention,

pathophysiology, and management. Financial constraints affecting preventive practices further suggest that affordable health promotion strategies should be incorporated into nursing training.

For administration, the study emphasizes the need to create supportive environments that promote healthy practices among students and staff. Academic workload was a major factor affecting eating habits, pointing to the importance of workplace wellness programs and institutional policies on stress management, nutrition, and access to healthcare resources.

### 5.3 Summary

This cross-sectional study assessed knowledge and preventive practices regarding peptic ulcer disease among 249 nursing students at the University of Benin, with a 97.6% response rate. The sample was predominantly female (94%), young (51.8% aged 21–25), and single (97.6%). Overall, 78% of the respondents demonstrated good knowledge of peptic ulcer disease, with particular strengths in recognizing symptoms (96.4%) and identifying *H. pylori* as a causative agent (74.7%). However, knowledge gaps were evident in understanding transmission mechanisms (51.8%) and the relationship between NSAID use and ulcer formation (63.9%). Preventive practices showed moderate adherence (grand mean = 0.66), with strengths in avoiding unprescribed medications and hydration but weaknesses in diet modification during symptoms. Key factors influencing knowledge and practices included level of study (mean = 3.30), healthcare accessibility (mean = 3.09), and academic workload (mean = 3.07). Financial challenges significantly

limited preventive actions. Persistent misconceptions remained, especially beliefs about stress as a sole causative factor (mean = 0.42) and poor understanding of treatment completion. These findings highlight critical areas for targeted educational interventions to improve both student health and professional preparedness.

#### 5.4 Conclusion

This study demonstrates that nursing students at the University of Benin generally possess strong foundational knowledge of peptic ulcer disease compared to earlier reports from Nigeria. A 78% good knowledge rate reflects progress in nursing education; however, important misconceptions persist regarding etiology and management, particularly stress as a single causative factor and the discontinuation of treatment once symptoms resolve.

Preventive practices showed only moderate adherence despite high knowledge levels, suggesting a gap between theoretical understanding and practical application. Academic workload, financial limitations, and curriculum adequacy were the main influencing factors, highlighting areas where institutional interventions are needed. The strong role of curriculum adequacy also emphasizes the importance of comprehensive and updated coverage of peptic ulcer disease in nursing education.

The persistence of misconceptions among future healthcare providers is concerning, as these gaps could affect patient education and care quality in clinical practice. Addressing these deficiencies is essential, not only for students' personal health but also for ensuring

competent professional practice in disease prevention, health promotion, and evidence-based management of peptic ulcer disease.

### 5.5 Limitations of the Study

Several limitations should be considered in interpreting the findings of this study. First, the cross-sectional design does not allow causal inferences between identified factors and knowledge or preventive practices. Conducting the study at a single institution the University of Benin also limits generalizability to other nursing schools in Nigeria or abroad. The use of self-administered questionnaires raises the possibility of social desirability bias, particularly in preventive practices, as students may have provided answers they considered appropriate rather than actual behaviors. In addition, the reliance on self-reported data for both knowledge and practices may not reflect real-world application of knowledge in clinical or personal settings.

### 5.6 Recommendations

Based on the findings, several recommendations are proposed for nursing education, institutional policy, healthcare systems, and research.

- 1. For Nursing Education:** Programs should provide targeted teaching on *H. pylori* transmission and NSAID-related ulcer formation. Case-based and simulation learning should be integrated to correct misconceptions about stress and treatment completion. Curriculum should be updated to strengthen evidence-based coverage of peptic ulcer disease, while regular assessments can monitor misconceptions.

- 2. For Institutional Policy:** Schools should provide financial support or subsidized healthcare to reduce economic barriers to prevention. Stress management and wellness programs that encourage balanced eating and healthy lifestyles should be developed. On-campus healthcare resources should be easily accessible to students, while mentorship programs pairing senior and junior students could enhance peer learning.
- 3. For Healthcare Systems:** Continuing education programs should be offered to practicing nurses, alongside standardized patient education materials. Quality assurance mechanisms should ensure accurate patient counseling.
- 4. For Research:** Multi-institutional studies, longitudinal assessments, and intervention-based research should be conducted. Developing culturally relevant educational materials and exploring digital platforms for teaching could improve knowledge and preventive practices in nursing education.

### **5.7 Suggestions for Further Study**

This study highlights several opportunities for future research that could strengthen understanding of peptic ulcer disease knowledge and practices among nursing students. A longitudinal approach following students from entry through graduation and into early professional practice would help assess knowledge retention and the transition from theoretical learning to clinical application. Conducting multi-institutional studies across different regions of Nigeria would improve generalizability and reveal institution-specific or cultural factors influencing learning and practices.

Intervention-based research is recommended to evaluate targeted educational strategies designed to correct misconceptions, using experimental or quasi-experimental designs. Qualitative studies, such as interviews and focus groups, could provide deeper insights into the persistence of misconceptions and the role of informal information sources such as peers, social media, and the internet.

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## APPENDIX I

FACULTY OF NURSING SCIENCE  
COLLEGE OF MEDICAL SCIENCES  
UNIVERSITY OF BENIN,  
BENIN CITY

TITLE PAGE

Dear Respondent,

I am a 500 level student of the Department of Nursing Science in the above-named institution. I am currently conducting a research study titled: **“Knowledge and Preventive Practices Regarding Peptic Ulcer Disease Among Nursing Students in a Tertiary Health Institution in Benin City.”** This study aims to assess the level of knowledge, preventive practices, influencing factors, and misconceptions about peptic ulcer disease among nursing students. Your responses will be treated with the utmost confidentiality and will be used strictly for academic purposes. Participation is entirely voluntary, and you may choose to withdraw from the study at any stage without any penalty.

Thank you for your time and cooperation.

**Yours faithfully,**

**OZOR CHIDIMMA FAITH**

**Instruction:** Please do not write your name. Kindly tick or fill in the appropriate answer

**SECTION A: Socio-Demographic Data**

**Age:** ( ) 16–20 ( ) 21–25 ( ) 26–30 ( ) Above 30

**Gender:**  Male  Female

**Marital Status:**  Single  Married

**Religion:**  Christianity  Islam  African Traditional Religion  Other

**Ethnic Group:**  Igbo  Yoruba  Hausa  Bini  Other

**Place of Residence:**  On campus  Off campus

**SECTION B: level of knowledge of peptic ulcer disease among nursing students**

*(Tick the correct response(s). For True/False/Don't know questions, tick one option.)*

1. Have you ever heard of peptic ulcer disease before?  Yes  No
2. Which organism is most commonly associated with peptic ulcer disease?  
 E. coli  Salmonella  H. pylori  Don't know
3. What are typical symptoms of peptic ulcer disease? *(Select all that apply)*  
 Burning stomach pain  Bloating  Black stools  Seizures
4. What is the most common cause of peptic ulcers globally?  Stress  Spicy food  H. pylori  Cold drinks
5. Which of the following can lead to peptic ulcer formation? *(Select all that apply)*  
 NSAIDs  Stress  H. pylori  Balanced diet
6. Peptic ulcer is a condition affecting which part of the body?  Small intestine  Large intestine  Stomach/duodenum  Lungs
7. A common test used to detect peptic ulcer is:  Endoscopy  Blood pressure check  Chest x-ray  Urinalysis
8. Which of the following is a complication of untreated peptic ulcer?  
 Hypertension  Perforation  Anemia  Jaundice

9. H. pylori can be transmitted through: ( ) Airborne droplets ( ) Contaminated food/water ( ) Physical contact ( ) Don't know
10. Prolonged use of painkillers such as ibuprofen can cause peptic ulcers. ( ) True ( ) False ( ) Don't know

### SECTION C: Preventive Practices Regarding Peptic Ulcer Disease

Please tick the most appropriate option that reflects how often you engage in the following practices.

S/N	Preventive Practice Statement	Always	Sometimes	Rarely	Never
1.	I eat on time each day.				
2.	I avoid using painkillers (e.g., ibuprofen) without medical advice.				
3.	I avoid skipping meals during academic stress.				
4.	I take steps to manage academic stress.				
5.	I use antacids or ulcer medications only when prescribed.				
6.	I consume alcohol regularly.				
7.	I smoke or use tobacco products.				
8.	I avoid spicy/acidic foods when experiencing abdominal discomfort				
9.	I drink plenty of water daily to support digestion.				
10	I consult a healthcare provider if I have ulcer symptoms.				

**SECTION D: Factors** influencing knowledge and preventive practices of peptic ulcer disease

please indicate your level of agreement with the following statements.

S/N	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1.	My level of study has helped me better understand peptic ulcer disease.				
2.	The nursing curriculum has adequately covered peptic ulcer disease.				
3.	My academic workload affects my ability to eat properly and on time.				
4.	Financial constraints prevent me from seeking appropriate treatment for ulcer-related symptoms.				
5.	I rely on personal experience and observation for my understanding of ulcer management.				
6.	Social media and internet sources have influenced my knowledge about peptic ulcer disease.				
7.	Peer discussions have contributed to my knowledge of ulcer symptoms and preventive practices.				
8.	Cultural or traditional beliefs influence how I perceive and respond to ulcer symptoms.				
9.	I am more likely to take preventive action when ulcer symptoms are discussed in class or during clinical				

	postings.				
10	I find it easier to adopt preventive practices when supported by accessible healthcare services.				

**SECTION E: KNOWLEDGE GAPS AND MISCONCEPTIONS ABOUT PEPTIC ULCER DISEASE**

<b>S/N</b>	<b>Statement</b>	<b>True</b>	<b>False</b>	<b>Don't Know</b>
1.	Peptic ulcer disease only affects older adults.			
2.	Drinking milk frequently cures peptic ulcer.			
3.	Stress alone is enough to cause peptic ulcer disease.			
4.	Spicy foods are the main cause of ulcer.			
5.	All stomach pain is a sign of ulcer.			
6.	Once ulcer symptoms go away, no treatment is needed.			
7.	Peptic ulcer disease cannot recur once treated.			
8.	Peptic ulcer disease can be transmitted from person to person.			
9.	Natural herbs are always effective in curing peptic ulcer disease.			
10	Antacids alone are enough to completely cure all types of ulcers.			

APPENDIX II

RELIABILITY ANALYSIS RESULTS

**Scale1: knowledge of peptic ulcer**

<b>Case Processing Summary</b>			
		N	%
Cases	Valid	249	100.0
	Excluded <sup>a</sup>	0	.0
	Total	249	100.0

a. Listwise deletion based on all variables in the procedure.

<b>Reliability Statistics</b>		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.841	.846	10

**Scale2: preventive practices**

<b>Case Processing Summary</b>			
		N	%
Cases	Valid	249	100.0
	Excluded <sup>a</sup>	0	.0
	Total	249	100.0

a. Listwise deletion based on all variables in the procedure.

<b>Reliability Statistics</b>		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.794	.801	10

**Scale3: Factors that Influence Early Detection of Sepsis in Immunocompromised Patients**

**Case Processing Summary**

		N	%
Cases	Valid	249	100.0
	Excluded <sup>a</sup>	0	.0
	Total	249	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.872	.877	10

### Scale 3: Knowledge gaps and misconceptions about peptic ulcer disease

#### Case Processing Summary

		N	%
Cases	Valid	249	100.0
	Excluded <sup>a</sup>	0	.0
	Total	249	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.816	.821	10