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# KNOWLEDGE, ATTITUDE AND PRACTICE STUDY ON GASTRIC AND DUODENAL ULCER AMONG PHARMACY STUDENTS

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## Abstract

**Background:** Gastric and duodenal ulcer among Pharm.D (IV, V and VI year students), B.Pharm (III & IV year students) and M.Pharm students how much knowledge they have about the complications and treatment of the peptic ulcer disease. So we conducted a Knowledge, Attitude and Practice study about gastric and duodenal ulcer among pharmacy students. With the primary objective to evaluate to compare & assess knowledge, attitude and practice about gastric and duodenal ulcer. **Methods:** Knowledge, attitude, practice study was conducted for a period for six months. 175 students were enrolled in the study, inclusion criteria: Pharm.D students (4<sup>th</sup> to 6<sup>th</sup>) from VISTAS are included for the study, B Pharm students (3<sup>rd</sup>-4<sup>th</sup>) and M.Pharm students from VISTAS are included for the study, Age above 18 included for the study, Both genders are involved in this study. Exclusion criteria: Pharmacy students not from VISTAS are excluded for this study Pharm.D (I, II and III) students, B Pharm (I and II) students are excluded from this study. Students who are not willing to give consent to the study. **Results:** Students were responders from Pharm.D, B Pharm and M.Pharm. In that Pharm.D and M.Pharm students has more knowledge and B.Pharm need more knowledge about the peptic ulcer disease. **Conclusion:** According to the findings, the study participants have a good understanding, fair attitude, and practice of gastric and duodenal ulcer. And also this study concludes that there is enough knowledge regarding gastric and duodenal ulcer. Therefore awareness programs such as educational pamphlets and continuing educational seminars may play important roles in increasing pharmacists' knowledge and therefore improving their performance in the treatment of gastric and duodenal ulcer.

**Keywords:** Gastric, Duodenal, Complications, Knowledge, Practices

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## INTRODUCTION

The gastrointestinal system is a vital bodily system that is closely linked to dietary intake, playing a crucial role in promoting optimal growth, development, and physiological functioning. The prevalence of gastric diseases is on the rise, and if left untreated, they can have long-lasting consequences. Timely and comprehensive treatment is imperative to mitigate these potential issues[1]. The incidence of *Helicobacter pylori* infection among individuals diagnosed with peptic ulcer disease surpasses 90%. Eliminating this infection not only leads to the resolution of most uncomplicated ulcers but also substantially reduces the probability of ulcer recurrence. The global incidence of *H. pylori* infection is approximately 50%, with a significantly higher prevalence of 80% - 90% in developing nations and a lower incidence of 35% - 40% in the United States. *H. pylori* is regarded as one of the most prevalent bacterial pathogens in humans, with an estimated infection rate of 50% among the global population[2]. Peptic ulcers may arise in any segment of the gastrointestinal tract that is subjected to adequate levels of acid and pepsin for a prolonged period of time. Typically, gastric ulcers (GU) or duodenal ulcers (DU), or both, manifest in the stomach or the proximal duodenum. The aetiology of a significant majority (minimum 90%) of peptic ulcer disease (PUD) cases can be attributed to *Helicobacter pylori* infection. The aetiology of PUD is primarily attributed to two factors, namely, the presence of *H. pylori* infection and the administration of NSAIDs[3]. The conventional regimen for the elimination of *H. pylori* involves the administration of a proton pump inhibitor, clarithromycin, and either metronidazole or amoxicillin. Studies have demonstrated that the elimination and management of *H. pylori* have led to the amelioration of acute and chronic inflammation (Li et al., 2017), the resolution of gastric ulcers (Ford et al.,

2016; Leodolter et al., 2001), and the avoidance of gastric cancer (Wong et al., 2004), thus indicating favourable results. The inefficacy of eradication may be ascribed to various factors such as antibiotic resistance, noncompliance of patients, and a number of host or bacterial factors, as posited by Kim et al. (2015) [4]. Moreover, possessing information regarding warning signs is crucial for prompt identification of cancer. The manifestation of an abdominal lump, abdominal distension, and discomfort are indicative signs of gastric carcinoma [5]. Males are particularly susceptible to developing peptic ulcers. Due to negative behavioural patterns. Various factors such as smoking and alcohol consumption, high-stress occupations, emotional disturbances, irregular meal patterns, consumption of hot beverages, intake of spicy foods, and unnecessary drug usage have been identified as potential contributors to negative health outcomes [6]. The bacterium *Helicobacter pylori*, previously known as *Campylobacter pylori*, have emerged as a significant global public health concern. It has been found to afflict approximately 50% of the world's population, rendering it one of the most pervasive infections worldwide. Each year, *H. pylori* infection is linked to more than 300,000 deaths [7]. A heightened incidence of gastrointestinal ailments or indications, such as dyspeptic symptoms, in communities with a high prevalence of *H. pylori* infection suggests that a substantial proportion of individuals seek primary healthcare services [8]. Screening and prevention of *Helicobacter pylori* among high-risk populations has the potential to mitigate certain illnesses. The approach of "test-and-treat" should be tailored to the specific comorbidities and preferences of the patient [9]. Various diagnostic techniques are available for detecting *Hp* infection, including both endoscopic and non-endoscopic methods. The employed methodologies can be categorised as either direct, such as culture

and microscopic demonstration of the organism, or indirect, such as utilising urease, stool antigen, or an antibody response as a disease marker [10]. The development of resistance is a significant issue in relation to the utilisation of metronidazole and clarithromycin, which are two primary antibiotics employed in the treatment of *H. pylori* infection. The concept of resistance is characterised by a threshold value that is contingent upon both the minimum inhibitory concentration (MIC) of the bacterial strains and the level of antibiotic concentration attainable in the tissue through a specific therapeutic dosage. Antibiotic resistance is widely recognised as a significant contributor to the ineffectiveness of bacterial infection treatments, including those targeting *H. pylori* infections[11].

#### **METHODOLOGY:**

The triad of knowledge, attitude, and practise. The investigation was conducted over a duration of six months. The temporal span of the event spans from August 2021 to March 2022. Data collection was done for a period of six months. This study involves curating a questionnaire after reviewing various journal papers that have similar aims and objectives. Based on this study, questions are prepared and entered in a google form then circulated to pharmacy students. The study participants who are eligible as per the inclusion criteria and willing to participate in the study are included. The study participants were requested to complete a questionnaire regarding their personal characteristics and other questions related to the Knowledge, Attitude, Practice about ‘gastric and duodenal ulcer’ among pharmacy students. The completed questionnaires with responses are collected from the study participants. The Responses of participants are pharmacy students who belong to Vels University Chennai are analysed, which

gives the idea regarding the Knowledge, Attitude, Practice about ‘gastric and duodenal ulcer’ among pharmacy students. The research tool was created and implemented through the utilisation of a self-constructed survey following an extensive review of relevant literature. The questionnaire was evaluated and authenticated by a medical practitioner.

#### **INCLUSION CRITERIA:**

- 1) Pharm.D students (4th to 6th) from VISTAS are included for the study.
- 2) B Pharm (3rd & 4th) from VISTAS are included for the study.
- 3) M.Pharm students from VISTAS are included for the study

#### **EXCLUSION CRITERIA:**

- 1) Pharmacy students not from VISTAS are excluded for the study.
- 2) Pharm.D (I, II & III year students)
- 3) B.Pharm (I and II year students)
- 4) Other than pharmacy students are excluded from the study.

Completed questionnaires were coded, reviewed for accuracy; the data were entered into excel sheet and exported to SPSS version 24 and analyzed using descriptive statistics. All categorical variables, including respondents of socio-demographics details, and others were expressed as percentage and frequencies.

#### **RESULTS:**

The study involved the participation of 175 students pursuing a degree in pharmacy, all of whom provided their explicit consent to take part in the research. The research comprises distinct segments, each encompassing a set of inquiries.

**Table 1: Demographic characteristics of the students**

Characteristics	Frequency	Percentage
<b>Gender</b>		
Male	162	92.6%
Female	13	7.4%
<b>Age</b>		
17-20years	7	4%
21-23years	129	73.7%
25-30 years	39	22.3%
<b>Educational Qualification</b>		
B Pharm	47	26.8%
M Pharm	15	8.6%
Pharm D	113	64.6%

From the study the demographic characteristics of the participants were included in the table 1. Table 1 shows that 92.6% of the participants were males and 7.4% were females. 4% of the students were between the age group of year 17-20. Seven participants were between the ages of 17-20 years which is 4% followed by 129

participants in the age group of 21-23 years which is 73.7% and thirty nine were between the age group of 25-30 years which is 22.3%. 64.6% of the participants in the study were Pharm.D students, 26.8% of the participants were B.Pharm students and 8.6% of the participants were M Pharm students.

**Table 2: Knowledge and understanding of students regarding gastric ulcer and duodenal ulcer**

S. No	Questions	Option (a)	Option (b)	Option (c)	Option (d)
1.	Which of the guidelines are to be followed for the management of peptic ulcer disease?	American College of Gastroenterology 158 (90.3%)	American Heart Association  12 (6.9%)	American Urological Association  4 (2.3%)	None of the above  1 (0.5%)

2.	What are the drugs used in triple therapy for eradication of H.pylori?	PPI+Amoxicillin +Clarithromycin 148  (84.6%)	PPI+Antacid+ Bismuthsalicy late 18  (10.3%)	PPI+Tetracy cline+Antac id 7  (4%)	None of the above 2  (0%)
3.	The patient describes the pain to be relieved by food intake. In addition the patient reports awaking in the middle of night with gnawing pain in the stomach. What type of peptic ulcer is this?	Duodenal  149  (85.1%)	Gastric 17  (9.7%)	Esophageal  9  (5.1%)	Refractor y 0  (0%)
4.	For how long do you indicate helicobacter eradication treatment?	14 days  144  (82.3%)	7 days  13  (7.4%)	10 days  10  (5.7%)	5 days 8  (4.6%)
5.	Which of the following is a complication of ulcer	All of the above  147  (84%)	Gastric outlet obstruction  10  (5.7%)	Perforation  9  (5.1%)	Hemorrh age 9  (5.1%)
6.	The preferred noninvasive test to confirm H.pylori eradication is	A urea breath test  153  (87.4%)	A serological antibody detection test  11  (6.3%)	A whole- blood antibody detection test  6  (3.4%)	A stool antigen test  5  (2.9%)

Table 2 shows that most of the participants has a good knowledge in gastric ulcer and duodenal ulcer.

**Table 3:** Attitude of students towards gastric ulcer and duodenal ulcer

S.no	Questions	Option (a)	Option (b)
<u>1</u>	When <i>Helicobacter pylori</i> is the cause of Peptic ulcer disease the ulcer disease can be eradicated with treatment.	Agree 164 (93.7%)	Disagree 11 (6.3%)
<u>2</u>	The pain from gastric ulcer typically improves with food; whereas the pain from a duodenal ulcer typically worsens, which leads to anorexia and weight loss.	Agree 163 (93.1%)	Disagree 12 (6.9%)
<u>3</u>	Avoiding spicy foods, soft drinks, caffeine and alcoholic beverages are preventive measures to control peptic ulcer	Agree 165 (93.7%)	Disagree 10 (6.3%)
<u>4</u>	Ranitidine is an example of H <sub>2</sub> receptor antagonist.	Agree  (94.3%)	Disagree  (5.7%)
<u>5</u>	Gastric ulcer perforation is termed to be severe	Agree 166 (94.9%)	Disagree 9 (5.1%)
<u>6</u>	Ulcers can cause internal bleeding which can slowly develop to anaemia.	Agree 162 (92.6%)	Disagree 13 (7.4%)

Table 2 shows that most of the participants has a good knowledge in gastric ulcer and duodenal ulcer.

**Table 4:** Perception of students regarding gastric ulcer and duodenal ulcer

S.no	QUESTIONS	Option (a)	Option (b)
1	Misoprostol protects the gastro-duodenal mucosa from the damaging effects of alcohol and NSAIDs	Agree 165 (94.3%)	Disagree 10 (5.7%)
2	Standard triple therapy is recommended when resistance to clarithromycin is low?	Agree 160 (91.4%)	Disagree 15 (8.6%)
3	Avoiding certain medications such as aspirin, NSAIDs and corticosteroids will help the stomach lining from disruption.	Agree 164 (93.7%)	Disagree 11 (6.3%)

4	Sucralfate stimulates the synthesis and release of gastric mucosal prostaglandins as well as bicarbonate and the epidermal growth factor which stimulates healing.	Agree 164 (93.7%)	Disagree 11 (6.3%)
5	Do you think probiotics can be combined with standard regimen of therapy?	Agree 168 (96%)	Disagree 7 (4%)
6	The gold standard test in the diagnosis of H.pylori is Urea breath test.	Agree 166 (94.9%)	Disagree 9 (5.1%)

Table 4 depicts the perception of participants towards gastric and duodenal ulcer. It shows that most of the participants had a positive perception regarding the treatment of peptic ulcer disease and only a few of them had poor perception.

## DISCUSSION:

Peptic ulcer disease (PUD) arises due to an imbalance between acid secretion and the protective mechanisms of the mucosa that counteract acid hydrolysis. More than 90% of patients with peptic ulcer disease are infected with H.pylori and eradication of this infection not only heals most simple ulcers but also significantly decreases the likelihood of recurrent ulceration. The global incidence of H. pylori infection is approximately 50%, with a significantly higher prevalence of 80%-90% observed in developing nations.(2) Duodenal ulcers are reported to occur with a frequency that is 5 to 10 times greater than that of gastric ulcers. The incidence of peptic ulcers is four times higher in males compared to females.(6)

This KAP study has been conducted to identify whether all the pharmacy students had a good knowledge, positive attitude

and appropriate practice towards the complications risk factor and treatment regimens of gastric and duodenal ulcer. In this study, a total of 175 participants were selected to evaluate knowledge, attitude and practices on gastric ulcer and duodenal ulcer among pharmacy students among which majority of the population were male 92.6%(162) followed by female 7.4%(13). In the age group between 21-23 years were found to be highest with 129(73.7%) and age group within the range of 17-20 years were the least with 7(4%). A majority of the pharmacy students were with education qualification of Pharm.D(64.6%), followed by B.Pharm (26.8%), and followed by M.Pharm (8.6%) respectively. The Knowledge Assessment towards gastric and duodenal ulcer which is obtained from the individual's self-report from the second section of the questionnaire. It has been found that, 85.62% of the Pharmacy

students had adequate knowledge, 93.71% of the students had positive attitude and 94% of the students adhered to the appropriate practices most of the times.

Majority of the participants had a good knowledge and positive attitude as well as and adhered to appropriate practices regarding the gastric and duodenal ulcers. Though they had a good knowledge a few of them still lack knowledge regarding this disease their complications, risk factors and treatments. So their knowledge must be enhanced by providing them pamphlets and conducting awareness programs and also presenting and explaining various cases, journals related to peptic ulcer disease.

#### CONCLUSION:

According to the findings, the study participants have a good understanding, fair attitude, and practice of gastric ulcer and duodenal ulcer disease, yet there is still a considerable disparity in knowledge, attitude, and practice regarding peptic ulcer disease among B pharm students. As per study the level of awareness towards peptic ulcer disease among M.Pharm and Pharm.D is found to be good and among B Pharm students is moderate. Therefore awareness programssuch as educational pamphlets and continuing educational seminars may play important rolesinincreasingpharmacists'knowled geandthereforeimprovingtheirperforma ncein the treatment of gastric and duodenal ulcer. However there were some uncertainties in the KAP of our target population which needs to be resolved for better outcome and study implementations. Survey questions were shared online was the rejections and disagreements including the ignorance of the study was quite high.

#### CONFLICTOFINTEREST

None

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