Volume 3, Issue 5, 2025

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

FREQUENCY OF SYMPTOMS IN H. PYLORI INFECTED PATIENTS AT TERTIARY CARE HOSPITALS

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DOI: https://doi.org/10.5281/zenodo.18169147

Keywords
H. Pylori, Nausea, Gastric pain.

Article History
Received: 20 May 2025
Accepted: 05 July 2025
Published: 18 July 2025

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Abstract

Objective: *To determine the frequency of symptoms in H. pylori infected patients at tertiary care Hospitals.*

Methods: *This cross-sectional study involved 138 patients from the Department of Medicine at Bolan Medical College Hospital in Quetta. The study was conducted from Jan-2025 to April-2025. The participants were individuals aged 18 to 60 years with a diagnosis of Helicobacter pylori infection. The frequency of symptoms (e.g., nausea, vomiting, heartburn, gastric pain, and loss of appetite) were noted in all patients.*

Results: *The baseline study included 138 participants with an average age of 34.3 (±7.45) years. Of the participants, 55.1% were male (n=76) and 44.9% were female (n=62). The most frequently reported symptom was nausea, experienced by 26.8% (n=37) of the patients. Gastric pain was reported in 26.0% (n=36) of cases, while heartburn was present in 19.5% (n=27) of cases. Loss of appetite affected 16.7% (n=23) of the patients, and vomiting was noted in 10.8% (n=15) of the study population.*

Conclusion: *According to the results of present study, the most typical symptom in patients presenting with h. pylori infection was nausea noted in 26.8% patients, followed by gastric pain in 26.0% patients.*

INTRODUCTION

Helicobacter pylori (H. pylori) is a Gram-negative bacterial species that colonizes the human stomach and is linked to a variety of gastrointestinal illnesses.[1] It is a common infection worldwide, with over half of the population in both developed and developing nations affected. Most individuals acquire H. pylori during childhood.[2] This microorganism is frequently identified as the chronic gastritis, peptic ulcers, and gastric cancer in adults.[3]

The exact mode of transmission for H. pylori remains uncertain, but it is widely believed to spread primarily through fecal-oral or oral–oral routes via contaminated water or food. The prevalence of infection tends to increase with age, and communities with lower socioeconomic status experience higher rates of development.[4] The bacteria's ability to survive in the stomach and cause persistent inflammation indicates its resistance to both immune defenses and gastric acid. Various antibiotics are employed to treat H. pylori infections; however, emerging data shows a rapid rise in resistant strains, prompting ongoing research into alternative therapies to improve treatment safety and efficacy.[5, 6]

Early childhood infection with Helicobacter pylori is recognized as a significant risk factor for developing gastric cancer in adulthood.[7] It is widely acknowledged that H. pylori infection in

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

children is linked to various extragastric conditions, including impaired growth, iron-deficiency anemia, and idiopathic thrombocytopenic purpura. Many infections remain asymptomatic, especially in impoverished communities, with no noticeable clinical signs.[8] When symptoms do occur, they are mainly related to gastric or duodenal ulcers and inflammation of the small intestine. Additional symptoms such as nausea, vomiting, and abdominal pain can often be mistaken for other gastrointestinal disorders.[9] The aim of present study was to determine the frequency of symptoms in H. pylori infected patients at tertiary care Hospitals.

METHODS:

This cross-sectional study involved 138 patients from the Department of Medicine at Bolan Medical College Hospital in Quetta. The study was conducted from Jan-2025 to April-2025. The participants were individuals aged 18 to 60 years with a diagnosis of Helicobacter pylori infection. All patients underwent stool antigen testing for the diagnosis of H. pylori infection. Patients were excluded if they had a history of gastric surgeries such as partial gastrectomy or gastric bypass, had undergone H. pylori eradication therapy within the previous six months, or suffered from other chronic gastrointestinal conditions like inflammatory bowel disease, celiac disease, or gastrointestinal cancers. Exclusion also applied to those with liver, kidney, pancreatic, or parasitic infections based on medical history and records, as well as individuals with evidence of other viral or bacterial infections. Pregnant women were also excluded from the study.

After taking Informed consent and demographic detail (name, age, gender, height, weight, BMI), and duration of disease was obtained. The frequency of symptoms (e.g., nausea, vomiting, heartburn, gastric pain, and loss of appetite) were noted in all patients.

Data was entered and analyzed by using SPSS version 25. Mean and standard deviation was calculated for numerical variables like age, BMI and duration of disease. Frequency and percentage were calculated for categorical variables like gender, residence, employment status, and symptoms (vomiting, gastric Pain, heartburn, loss of appetite).

RESULTS:

The baseline study included 138 participants with an average age of 34.3 (±7.45) years. Of the participants, 55.1% were male (n=76) and 44.9% were female (n=62). The majority resided in urban areas, accounting for 64.5% (n=89), while the remaining 35.5% (n=49) lived in rural settings. The mean duration of disease among participants was 18.5 days (±3.7), and the average body mass index (BMI) was 24.8 kg/m² (±2.3). Regarding employment status, 81.2% (n=112) were employed, whereas 18.8% (n=26) were unemployed (Table 1).

Among the 138 patients infected with H. pylori, the most frequently reported symptom was nausea, experienced by 26.8% (n=37) of the patients. Gastric pain was reported in 26.0% (n=36) of cases, while heartburn was present in 19.5% (n=27) of cases. Loss of appetite affected 16.7% (n=23) of the patients, and vomiting was noted in 10.8% (n=15) of the study population (Table 2).

Table 1. Baseline Study Characteristics (N=138).

Age (Years)	34.3±7.45
Gender (%)	
Male	76 (55.1%)
Female	62 (44.9%)
Residence (%)	
Urban	89 (64.5%)
Rural	49 (35.5%)
Duration of Disease (days)	18.5±3.7
BMI (Kg/m^2)	24.8±2.3
Employment status (%)	
Employed	112 (81.2%)

Frontier in Medical & Health Research

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Unemployed	26 (18.8%)

Table 2. Frequency of Symptoms in H. Pylori Infected Patients (N=138).

Nausea	37 (26.8%)
Vomiting	15 (10.8%)
Gastric pain	36 (26.0%
Heart Burn	27 (19.5%
Loss of Appetite	23 (16.7%)

DISCUSSION:

Helicobacter pylori (H. pylori), a spiral-shaped Gram-negative bacterium, was initially discovered in the stomachs of dogs by Giulio Bizzozero in 1892. Because it resembles Campylobacter species with its spiral form, Barry Marshall and Robin Warren named it Campylobacter pyloridis in 1983.[10] Later, in 1989, Goodwin and colleagues reclassified it as Helicobacter pylori due to its unique helical shape and its tendency to inhabit the pyloric region of the stomach.[11] This microorganism measures approximately 0.5 to 1 micrometer in width and 2 to 4 micrometers in length, presenting a short, curved, S-shaped form, and is known to infect over half of the global population.[12]

H. pylori predominantly colonizes the antral region of the human stomach lining. Its infection is linked to several gastrointestinal conditions, including chronic active gastritis, peptic ulcers, MALT lymphoma, and gastric adenocarcinoma.[13] It is estimated that over half of the world's population is infected with H. pylori, making it the most common bacterial infection globally. Infection rates differ across countries, with higher prevalence in developing nations compared to developed ones.[14] Despite this widespread presence, up to 85% of those infected show no symptoms or complications.[15] The World Health Organization (WHO) classifies H. pylori as a carcinogenic agent.[16] Research indicates that H. pylori infection is responsible for approximately 75% of non-cardia gastric cancers globally. The infection can cause gastritis, which may become atrophic. This atrophic gastritis can further progress to

conditions such as intestinal metaplasia, dysplasia, and neoplastic changes, ultimately increasing the risk of gastric adenocarcinoma and MALT lymphoma.[17, 18]

Our study found that a majority of patients infected with H. pylori were male. While some researchers have noted a higher prevalence of H. pylori among males, numerous studies report no significant difference between genders.[19, 20] A comprehensive meta-analysis conducted by Zamani et al. in 2018, encompassing 183 studies from 73 countries across six continents, indicated that although males appeared to have a higher rate of infection globally, these differences were not statistically significant. The relationship between gender and H. pylori infection remains an interesting area for further investigation, particularly regarding how sex may impact the likelihood of acquiring or maintaining the infection.[14]

In our study, the most typical symptom in patients presenting with h. pylori infection was nausea noted in 26.8% patients, followed by gastric pain in 26.0% patients. In a study conducted by Abbas et al., it was observed that 25.5% of patients experienced nausea, while 24.5% suffered from gastric pain. Heartburn was reported by 20.25% of the participants, vomiting by 12.8%, and a loss of appetite was noted in 5.3% of those infected with H. pylori.[21] In a different investigation, dyspeptic symptoms were found in 20.3% of individuals, with 56.8% experiencing substernal burning. Additionally, decreased appetite was reported by 31.1% of patients, abdominal fullness by 14.5%, and vomiting by 6.1%.[22]

Conclusion:

According to the results of present study, the most typical symptom in patients presenting with h. pylori infection was nausea noted in 26.8% patients, followed by gastric pain in 26.0% patients.

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