

Frequency of Helicobacter Pylori Infection in Patients with Functional Dyspepsia

WAJEEHA RAFI¹, AMMAR NOOR², HAFIZ MUHAMMAD HASHIM KHAN³, TAYYAB ARIF BUTT⁴, MUHAMMAD INAM UL HAQ⁵, MUHAMMAD MOHSIN BAJWA⁶

¹WMO, Tayyab Medical Complex Gujranwala

²House Officer, DHQ Teaching Hospital Gujranwala.

³House Officer, DHQ Teaching hospital Gujranwala.

⁴FCPS Resident, DHQ Teaching Hospital Gujranwala.

⁵FCPS Resident, DHQ teaching hospital Gujranwala.

⁶MS Resident, DHQ teaching hospital Gujranwala.

Correspondence to: Ammar Noor, Email: ammamoor3@gmail.com

ABSTRACT

Objective: To determine the frequency of Helicobacter Pylori (H. Pylori) infection in patients of dyspepsia.

Patients and Methods: A total number of 150 patients with diagnosis of dyspepsia, both male and female having age 18-60 years and having duration of symptoms of dyspepsia from > 6 months were included from June-2021 to February-2022. Baseline characteristics such as age, gender, duration of symptoms, educational status and marital status was noted. In laboratory gram staining and rapid urease test was done to diagnose H. pylori. Diagnostic endoscopy was done in all patients. Biopsy specimens was taken from abnormal lesions for histopathological diagnosis of H. pylori infection.

Results: Mean age was 40.11±9.08 years. Mean duration of symptoms was 13.24±5.42 months. There were 72(48%) male patients and 78(52%) female patients. Helicobacter pylori was found present in 86 (50.89%) and it was absent in 83 (49.11%) patients

Conclusion: In present study, H. Pylori was diagnosed in 50.89% patients which is very high, so the patients presenting with functional dyspepsia should always be evaluated first for the possibility of H. Pylori infection.

Keywords: Helicobacter pylori, dyspepsia.

INTRODUCTION

Dyspepsia is a common symptom that can be brought on by a number of different upper gastrointestinal conditions. The most prevalent causes of dyspepsia are gastroduodenitis, peptic ulcer disease (PUD), malignancies, oesophagitis, parasite infestations, and functional dyspepsia; however, dyspepsia can also be caused by a range of other conditions.¹ There is a significant amount of variation in the distribution of these upper gastrointestinal lesions from one nation to the next, and even between geographical locations within the same country.^{2, 3} In addition, the signs and symptoms of several causes usually overlap with one another, which makes aetiological diagnosis difficult.

H. pylori (Gram-negative bacterium) is linked to peptic ulcer illness (gastric ulcer, duodenal ulcer) and malignancies (gastric cancer, lymphoma) in the upper gastrointestinal tract.⁴⁻⁶ Over one third world's population has been found to be infected with Helicobacter pylori, with the highest frequency being seen in underdeveloped countries.⁷ A low socioeconomic status, inadequate sanitation, contaminated water supplies, overcrowding, the number of siblings, and sharing a bed are all risk factors for H. pylori infection. Rural living also increases the likelihood of becoming infected with H. pylori.⁸ The majority of infected children become infected before the age of 10, with prevalence rates in underdeveloped countries reaching up to 80 percent or higher. The infection is most usually acquired during childhood.⁸

Even though it is not yet widely available in many underdeveloped countries, endoscopy is the most accurate method for diagnosing organic diseases that affect the foregut. Because of the strong correlation between this gram-negative bacterium and digestive problems, as well as the high prevalence of these conditions in less developed countries.³ In less developed countries, infection of H. pylori is amongst the commonest gastroenterological problems that affect the public's health.⁶

So, we determined the frequency of H. Pylori in patients of dyspepsia presenting in a tertiary care hospital. Because H. pylori infection is a treatable cause of dyspepsia, and early diagnosis and treatment can help to reduce morbidity, and cost and improvement in quality of life of infected patients.

PATIENTS AND METHODS

We included 150 patients of functional dyspepsia who presented in the department of medicine of the hospital from June-2021 to February-2022. Patients with dyspepsia symptoms duration >6 months were included. Patients taking proton pump inhibitors (such as omeprazole, esomeprazole) or any antibiotic treatment from 2 weeks (on history) before including them in the study. Baseline characteristics such as age, gender, duration of symptoms, educational status and marital status was noted.

Patients having one more of the following conditions: such as early satiation, postprandial fullness, burning sensation or epigastric pain for >6 months were labelled as having dyspepsia.⁹ In all patients, diagnostic endoscopy was done by consultant physicians. Biopsy samples were taken and were sent to the histopathology laboratory of the hospital where the diagnosis of H. pylori infection was made. In order to diagnose H. pylori, gramme staining and a fast urease test were performed in the laboratory. The biopsy samples were then cultured using the procedures that are considered standard if the findings of any of these tests were negative. I considered a sample to be positive for H. pylori if it had a positive result on at least two of the following tests: the Gram stain, the fast urease test, and the culture.

Data analysis was done using SPSS v23 software. Age of patients and duration of symptoms was presented as mean and standard deviation. While qualitative variables such as gender, educational status, marital status, and presence or absence of H. pylori infection were presented as frequency and percentage.

RESULTS

Mean age of patients was 40.11±9.08 years. Mean duration of symptoms was 13.24±5.42 months. There were 72 (48.0%) male patients and 78 (52.0%) female patients (Figure 1).

On frequency of educational status, there were 45 (30.0%) illiterate, 66 (44.0%) having primary, 34 (22.7%) secondary and 05 (3.3%) were having higher secondary or above education. There were 120 (80.0%) married and 27 (18.0%) unmarried and 03 (2.0%) divorced patients.

Helicobacter pylori was found present in 86 (50.89%) and it was found absent in 83 (49.11%) patients (Figure 2).

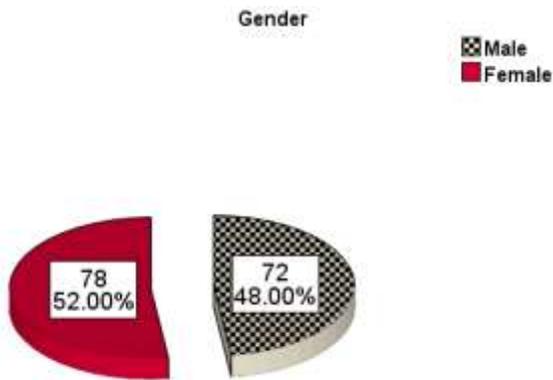


Figure 1: Frequency of gender.

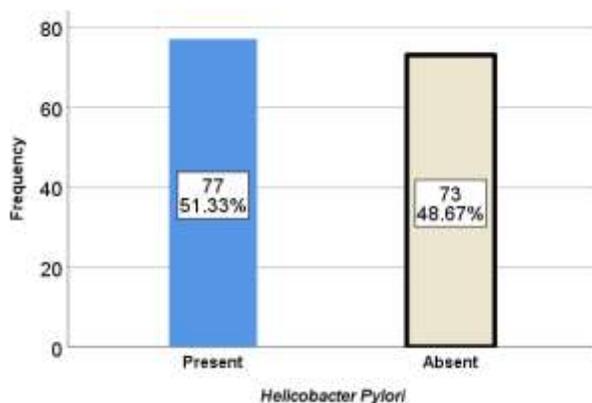


Figure 2: Frequency of H. Pylori Infection.

DISCUSSION

Functional dyspepsia (FD) is the frequent cause of upper gastrointestinal illnesses. The definition of FD has proven difficult, and despite numerous modifications to the notion of FD, the issues remain unsolved. Furthermore, professionals are still grappling with the diagnosis and treatment of this disorder. Concomitant reflux disease and IBS are common in many patients, which makes it difficult to diagnose and treat FD. Differentiating these illnesses has been attempted by emphasising features such as symptom localization, postprandial changes, and relieving factors. Isolating these features, on the other hand, is insufficient for distinguishing between these disorders. Recent research, for example, found that 37% of people with dyspeptic symptoms who were diagnosed with EPS also had esophageal acid reflux, which was confirmed by pH monitoring despite normal endoscopy.¹⁰

H. pylori is a widespread human infection that is found everywhere on the planet and does not discriminate against any region. This bacterium is thought to infect almost half of the world's population, as well as more than eighty percent of the population in low- and middle-income nations. This organism is the commonest cause of peptic ulcer disease and the main risk factor for gastric cancer. The vast majority of infected persons, on the other hand, continue to show no indications or symptoms of the disease. The only known reservoir of the pathogen is human beings, and the mechanism in which it spreads is unknown. The key risk factors for the development of *H. pylori* infection include poor sanitation, the lack of healthy drinking water in many areas, poor personal hygiene, and, last but not least, poor living conditions as a result of low socioeconomic position.^{11,12}

In present study *H. pylori* was diagnosed in 50.9% patients who presented with functional dyspepsia.

The *H. pylori* prevalence in dyspeptic patients appears to vary widely across research conducted around the world.¹³ percent of people in India have the disease, compared to 50–90 percent in Bangladesh; 70–90% in Africa; 70–90% in Japan; 48.8% of Germans; 26.6% of Swiss; and 7.1%–30% of Americans.¹⁴

A study conducted by Niknam et al. in Iran have reported 31.2% *H. pylori* infected cases in dyspeptic patients.¹⁵ Hamrah et al. reported *H. pylori* in 75.6% dyspeptic patients in Afghanistan.¹⁶ A study conducted in India by Satpathi et al. reported 58.8% frequency of *H. Pylori* infection in dyspeptic patients.¹⁷ While two studies conducted in Pakistan have reported 50-51% frequency of *H. pylori* in dyspeptic patients.^{9,18}

The evidence presented above makes it abundantly evident that the incidence of *H. pylori* is significantly higher in LMICs than it is in wealthy nations. The increased prevalence of *H. pylori* infection that we found in our research lends credence to the idea that *H. pylori* is an illness that is more common in less developed nations.

CONCLUSION

In present study, *H. Pylori* was diagnosed in 50.9% patients which is very high, so the patients presenting with functional dyspepsia should always be evaluated first for the possibility of *H. Pylori* infection in these patients.

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