

# A Study on the Healing of Peptic Ulcer Disease after Eradication of Helicobacter Pylori Infection in Rural People Bangladesh

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## ABSTRACT

**Objective:** In this study our main aim is to evaluate the healing of peptic ulcer disease after eradication of helicobacter pylori infection in rural people Bangladesh.

**Methodology:** This Prospective observational study was conducted at tertiary hospital Dhaka district from Tertiary medical college and hospital among 100 patients diagnosed coming to the gastroenterology outpatient department according to inclusion and exclusion criteria was included in the study.

**Result:** In our study among 100 patients, most of the patients belong to 31-40 years age group, which was 37.78% and 57% were male and 43% were female. 15.07% patients had duodenal ulcer and 21.09% had gastric ulcer for H. pylori positive. 18% patients were still positive for H.pylori after eradication therapy.

**Conclusion:** In conclusion, we can say that, prolonged Follow-up with upper GI endoscopy for additional period for recurrence

of ulcer should have been done for patients whose peptic ulcer disease had resolved but could not attain H. pylori eradication.

**Keyword:** Peptic Ulcer Disease, Helicobacter Pylori Infection, Duodenal Ulcer.


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## INTRODUCTION

Peptic Ulcer Disease or PUD, one of the most collective ulcers, refers to ulcer of the gastrointestinal tract in the region of the stomach. It is considered by high acidity resulting in mucosal erosions causing extreme pain and discomfort. By meaning, mucosal erosions should be equal to or exceed 0.5cm. It is the end result of an inequity between the digestive fluids in the stomach and the duodenum. Most ulcers are triggered by an infection, not spicy food, acid or stress. The stomach and the duodenal lining have several devices that prevent ulcers from developing. A coating of mucus protects the stomach lining from the effects of acidic digestive juices. Food and other substances in the stomach neutralize acid. Certain chemicals formed by the stomach protect the cells lining the stomach. Peptic Ulcers can be broadly classified into Gastric or stomach ulcer and Duodenal Ulcer. Gastric Ulcers occur mainly in the elderly, on the lesser curve. Ulcers elsewhere are often malignant. Duodenal Ulcers are four fold commoner than gastric ulcer. It is recognized by the most common symptom i.e. the epigastric pain occurs typically before meals or at night which is relieved by eating or drinking milk.<sup>1-3</sup>

Helicobacter pylori is a slow growing microaerophilic, highly motile, gram negative spiral bacterial organism that frequently infects the stomach of more than half of the human population and characterizes the major cause of gastroduodenal pathologies. There are substantial differences in H. pylori prevalence between high-and low-income countries and ranges from less than 10% to more than 80%. The occurrence of H.pylori infection has diminished in developed world due to improved sanitation and living conditions but its incidence is very high in Bangladesh. About 92% have been found to be seropositive for H.pylori antibody in a study carried out on adult male.<sup>4,5</sup>

In this study our main objective is to evaluate the healing of peptic ulcer disease after eradication of helicobacter pylori infection in rural people Bangladesh.

## OBJECTIVE

### General Objective

- To assess the healing of peptic ulcer disease after eradication of helicobacter pylori infection in rural people Bangladesh.

**Specific Objective**

- To detect H. pylori status of the patients
- To identify endoscopic findings H. pylori positive patients 4 weeks after completion of therapy

**METHODOLOGY**

**Type of Study**

Prospective observational study

**Place of Study**

Tertiary medical college and hospital.

**Study Period**

June 2016 to June 2018

**Study Population**

100 patients, coming to the gastroenterology OPD according to inclusion and exclusion criteria was included in the study.

**Sampling Technique**

Purposive

**Inclusion Criteria**

- Age 21-≥60 years
- Gender- Both male and female.
- The symptoms suggestive of peptic ulcer disease and dyspepsia i.e. upper abdominal pain, anorexia, vomiting, bloating, belching

**Exclusion Criteria**

- Patients aged less than 21 years.
- Regular user of NSAID and steroid, patients with complicated peptic ulcer including active bleeding, perforation & pyloric stenosis, co-existing gastric carcinoma, pregnant & lactating mothers

**Method**

100 patients clinical history were noted and referred for upper GI endoscopy. Patients receiving proton pump inhibitors, H2 receptor blocker, and antibiotic or bismuth compounds were advised to come for endoscopy after stopping the above-mentioned drugs for at least two weeks to avoid false positive/false negative result in rapid urease test. Selected patients underwent upper GI endoscopy in the department of Gastroenterology.

Ulcer was diagnosed at endoscopy, in the stomach or duodenum, when there was a mucosal break of diameter 5 mm or larger, covered with fibrin. Written informed written consents were obtained.

**Statistical Analysis**

Qualitative data are summarized by ratio and percentage. Qualitative data are summarized by mean and standard deviation (SD). Chi square (X<sup>2</sup>) and Unpaired t-test were used to assess the significance of Quantitative data respectively.

**Table 1: Age distributions of the patients**

Age Group, years	%
21-30	8.89%
31-40	37.78%
41-50	26.67%
51-60	24.45%
>60	2.21%

**Table 2: Socio demographic characteristics of the patients**

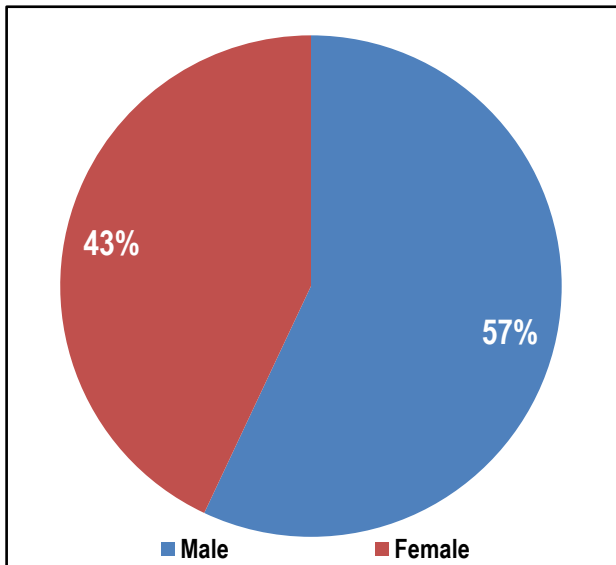
Variable		%
Residence Area	Rural	80%
	Urban	20%
Weight		68±9.0
Height		172±6.0
Educational Status	Illiterate	6%
	Primary	59%
	Secondary	23%
	Graduate	12%
Working status	Garments worker	26%
	Farmer	15%
	House wife	27%
	Rickshaw puller	32%
Socio economic status	Higher	19%
	Middle	58%
	Low	23%
Presence of diabetes	Yes	42.3%
	No	57.7%

**Table 3: Distribution of patients according to endoscopic findings at enrolment**

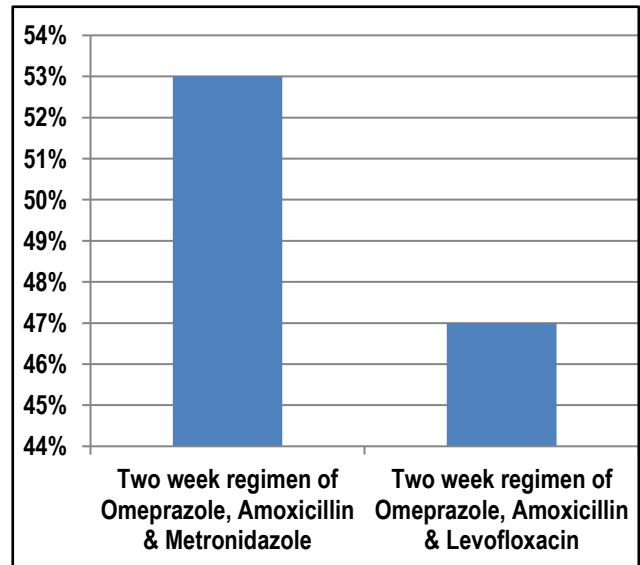
Endoscopic findings at enrolment	H.pylori positive,%	H.pylori negative,%
Antral erosion with deformed bulb	30.17%	7%
Duodenal ulcer	15.07%	3.1%
Gastric ulcer	21.09%	2%
Antral erosion	10.04%	1.8%
Non-erosive gastritis	8.63%	1.1%
<b>Total</b>	100%	

**Table 4: Endoscopic findings H. pylori positive patients 4 weeks after completion of therapy**

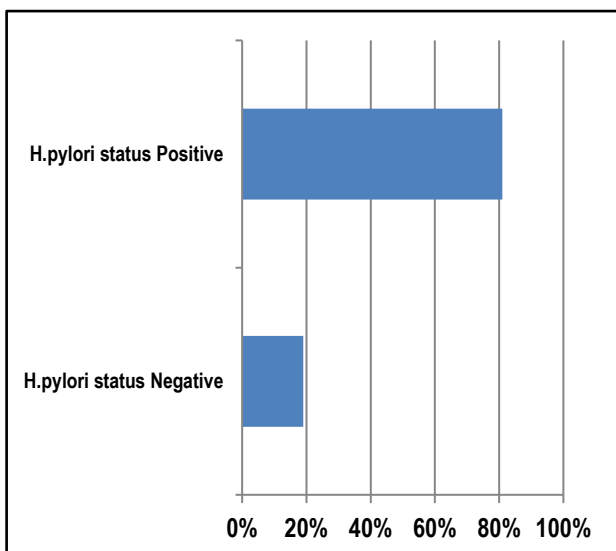
Endoscopic findings	H.pylori eradicated	Number of patients still positive for H.pylori
Normal	45%	9%
Duodenal ulcer	15%	3%
Gastric ulcers	10%	2.5%
Deformed bulb	7%	2%
Antral erosion with deformed bulb	5%	1.5%



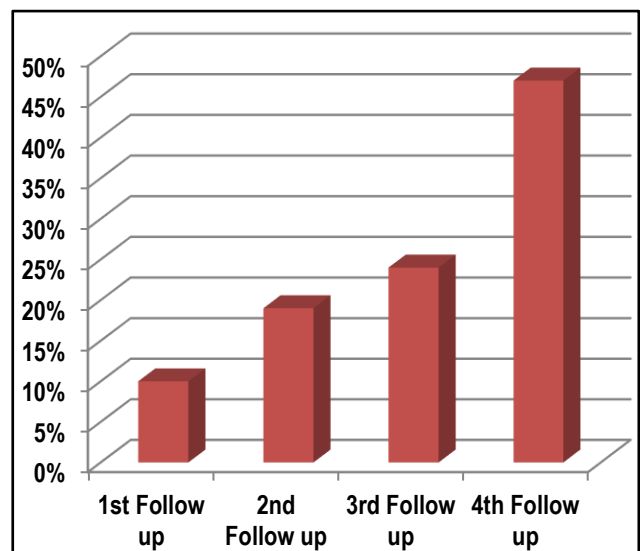
**Fig 1: Gender distributions of the patients**



**Fig 3: Distribution according to treatment.**



**Fig 2: H.pylori status of the patients.**



**Fig 4: According to number of follow up they completed.**

## RESULTS

In table-1 shows age distributions of the patients where most of the patients belong to 31-40 years age group, which was 37.78%.

In figure-1 shows gender distributions of the patients where this study patient was divided into male and female groups, where 57% were male and 43% were female.

In table-2 shows socio demographic characteristics of the patients where 80% patients were rural and 58% patients belongs to middle socio economic status.

In figure-2 shows H. pylori status of the patients where Among 100 patients, 81% were positive and 19% were negative for rapid urease test.

In table-3 shows distribution of patients according to endoscopic findings at enrolment where among 100 patients who were enrolled for the study, 15.07% patients had duodenal ulcer and 21.09% had gastric ulcer for H.pylori positive.

In figure-2 shows distribution of the patients according to treatment. In this study, 53% patients were treated with two weeks regimen of Omeprazole (20 mg, bd), Amoxicillin (1 gm, bd) and Metronidazole (400 mg, bd). For rest 47% of the patients, two weeks regimen of Omeprazole (20 mg, bd), Amoxicillin (1 gm, bd) and levofloxacin (500 mg, od) were given.

In figure-3 shows distribution of the patients according to number of follow up they completed where 47% patients completed their 4<sup>th</sup> follow-up during the treatment.

In table-4 shows endoscopic findings H. pylori positive patients 4 weeks after completion of therapy where based on endoscopic findings, 18% patients were still positive for H.pylori after eradication therapy.

## DISCUSSION

During the study, most of the patients belong to 31-40 years age group, which was 37.78% and 57% were male and 43% were female. 80% patients coming from rural.

These findings are more or less consistent with other studies in our country carried out on patients of peptic ulcer disease due to helicobacter pylori.<sup>5-7</sup>

According to one study diagnosis is confirmed and treatment can be started if rapid urease test is positive.<sup>8</sup> In the current study H. pylori status were considered to be positive if both rapid urease test and histopathology were positive. Among 100 patients who were enrolled for the study, 15.07% patients had duodenal ulcer and 21.09% had gastric ulcer for H.pylori positive. Prevalence of Helicobacter pylori in asymptomatic population of Bangladesh, as studied by article was 92%.<sup>5</sup>

Approximately 95% of duodenal ulcers and 85% of gastric ulcers usually occur in the presence of H. pylori infection.<sup>9,10</sup> H. pylori infection was associated with 92% of duodenal ulcer and 90 % of gastric ulcer respectively in a study by one report.<sup>9</sup> Our study also revealed, in accordance with other studies, similar association of H.pylori with duodenal and gastric ulcer. During the study we found that, after completion of therapy where based on endoscopic findings, 18% patients were still positive for H.pylori after eradication therapy.

## LIMITATION

Small sample size and short duration of time

## CONCLUSION

From our examination and analysis we can conclude that, adequate ulcer healing was achieved in this study despite relatively low eradication rate. Prolonged Follow-up with upper GI endoscopy for additional period for recurrence of ulcer should have been done for patients whose peptic ulcer disease had resolved but could not attain H. pylori eradication.

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