



Prevalence of H. Pylori Infection in Pediatrics. Cross-Sectional Study (200 Cases)

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Abstract: Helicobacter pylori infection is highly prevalent in more than 60% of the world's population and causes serious clinical complications that negatively affect children's quality of life over the long term. This study aims to evaluate and analyze the clinical outcomes that describe the extent of the prevalence of H. pylori infection in children. Between February 2023 and August 2024, 200 children with H. pylori infection between 4 and 15 years old who were diagnosed clinically in different hospitals in Iraq were recruited. These findings found that children with ages 13 – 15 years were the most class which has h. Pylori Infection which include 80 cases, where males had 90 cases and females had 110 cases; the most symptom prevalence in children was abdominal pain with 84 cases, and drinking contaminated water was the h. Pylori Infection sources, which are prevalent in children with 50% of total patients, peptic ulcers and inflammation of the stomach lining were the items as adverse outcomes as resulted in children with 100 cases and 40 cases. In general, children are considered the most affected age group by the spread of H. pylori, which weakens the histological features of the gastric mucosa in children, causing severe complications that negatively affect their daily lives.

Key words: H. pylori infection; Children; Complications; and Quality Life Questionnaire.

1. Introduction

Because to better living conditions, more socioeconomic progress, and greater cleanliness, Helicobacter pylori prevalence has significantly decreased in recent decades. But in third-world



nations, the frequency in H pylori infection is still rather high. Geographically, Helicobacter pylori represent a major infection; its incidence is believed to be 50% globally. [1,2,3,4,5,6]

The majority of cases of this illness occur in children and are contracted through the oral-oral or fecal-oral routes. Although colonization by this bacterium is usually asymptomatic, later in life, symptoms are unavoidable. Around 50% of people on the planet are infected with H. pylori; however, rates vary greatly among ethnic groups as well as geographical areas, ranging from 35% to 90%. [7,8,9,10,11,12]

Over the previous thirteen years, the seroprevalence among Korean adults over the age of eighteen has decreased [13,14,15]. An H. pylori infection was generally acquired in early childhood or infancy and, unless treated, typically lasts the entirety of a person's life. One of the main risk factors for the development in peptic ulcer illness, atrophic gastritis, as well as stomach carcinogenesis is a persistent H. pylori infection. [16,17]

Due to the paucity of research on the subject and the fact that the majority of children having H. pylori infection were asymptomatic, little is known about the H. pylori status among children as opposed to adults. Furthermore, the various rates for infection in children might be explained by the diagnostic variability of H. pylori. [18,19,20]

2. Patients and Methods

In these individuals, a diagnosis of H. pylori infection was made on the basis of histology and/or bacteriology. The 200 children included in the study were free of gastrointestinal symptoms and underwent endoscopy for the purposes of assessing the possibility of coeliac disease and monitoring portal hypertension. The symptoms reported included abdominal pain, nausea, vomiting, bloating, and loss of appetite. The primary sources of H. pylori infection were identified as contaminated drinking water, poor nutrition, and other factors.

A cross-sectional study was conducted on patients with Helicobacter pylori infection, comprising 200 children aged 4-15 years. The data pertaining to the patients were collected in different hospitals in Iraq over the course of four months between February 2023 and August 2024. All clinical data and diagnoses related to Helicobacter pylori infection were distributed to both patients (90 males and 110 females). The study included all paediatric patients aged 4-15 years who presented with symptoms, while those with comorbidities or infants were excluded. The data collected included macroscopic and histologic findings during the follow-up period.

Furthermore, the Sydney System, which has a score range of 0 to 3, was used to classify the histological severity of gastritis for individuals with H. pylori infection. Higher scores indicate more severe pathology. In addition, we included the problems that are common in the pediatric population. Additionally, a Paediatric Quality of Life Inventory (PedsQL), with a score range of 0 to 100, was used in this study to evaluate children's health-related quality of life. The six dimensions of health-related aspects of life are physical, psychological, emotional, social, school, and activity functioning. High scores denote exceptional health-related quality of life.

3. Findings

Table 1. Distribution of the prevalence of h. Pylori Infection on patients according to age.

Age	Number of cases: 200	Percentage %
3 – 7	45	22.5%
8 – 12	75	37.5%
13 – 15	80	40.0%

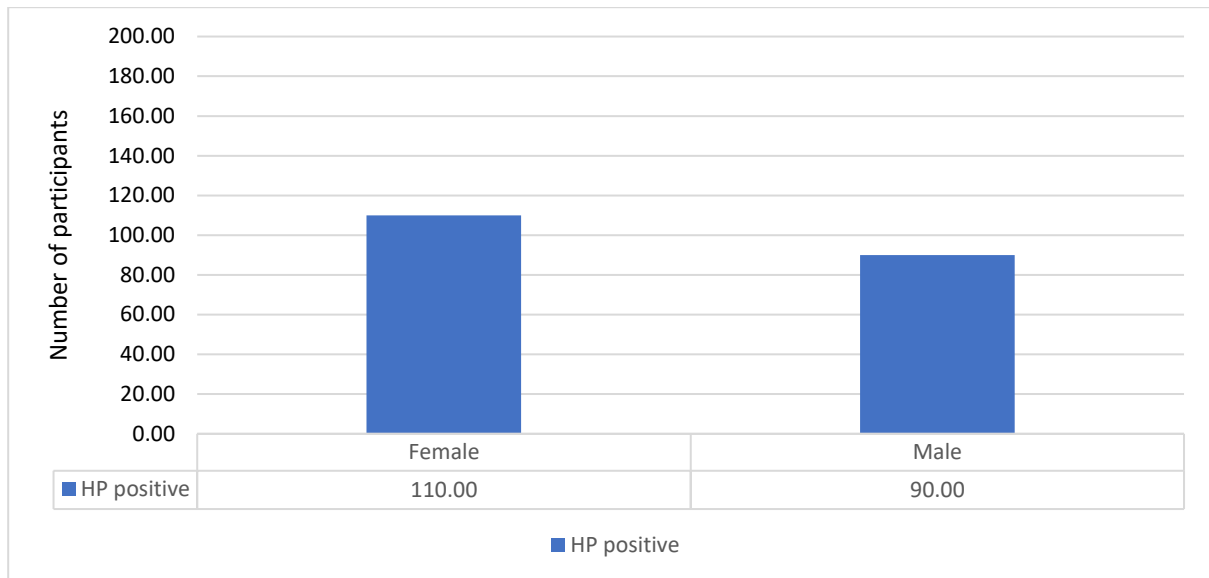


Figure 1. Distribution of positive h. Pylori Infection on patients according to gender.

Table 3. Determining the symptoms of h. Pylori Infection in Patients.

Signs	Number of cases: 200	%
Abdominal pain	84	42%
Nausea	56	28%
Vomiting	34	17%
Bloating	14	7%
Loss of appetite	12	6%

Table 4. Determining of h. Pylori Infection sources in the patients.

Infection's Sources	Number of cases: 200	%
Drinking contaminated water	100	50%
Open-air	60	30%
Malnutrition	30	15%
Other	10	5%

Table 5. Prevalence of h. Pylori Infection based on economics status.

Socio-economics levels	Number of cases: 200	%
Low, < 300	130	65.0%
Moderate, 300 – 600	56	28.0%
High, > 600	14	7.0%

Table 6. Data of histology and macroscopics.

Variables	Details
Macroscopic	
Nodular gastritis	140 [70%]
Erythematous gastritis	60 [30%]
Histology	
Antrum	3.9 ± 1.1
Corpus	2.4 ± 1.2

Table 7. Classification of histological severity of gastritis in patients with *H. pylori* infection.

Classifications	Number of cases: 200	Percentage, %
<i>Mild</i>	67	33.50%
<i>Moderate</i>	96	48.0%
<i>Severe</i>	37	18.50%

Table 8. Enrolling complications of *H. pylori* infection in the patients.

Complications	Number of cases: 200	Percentage, %
Chronic gastritis	40	20.0%
Peptic ulcers	100	50.0%
Inflammation of the stomach lining	56	28.0%
Increased risk of developing stomach cancer	4	2.0%

Table 9. Assessment of general health quality – life at children's patients with *H. pylori* infection.

Items	PedsQL, (0 – 100), mean ± SD
Physical functioning	57.73 ± 6.21
Psychological functioning	65.44 ± 5.45
Emotional functioning	62.36 ± 9.20
Social functioning	59.37 ± 5.44
School functioning	68.94 ± 4.85
Activity functioning	71.05 ± 3.64

4. Discussion

Both sexes and even children are susceptible to an infection with *H. pylori* [21, 22, 23]. There are several effects on children's health related to the high incidence of *H. pylori* infection. According to our research, youngsters between the ages of 13 and 15 made up 40% of all instances.

A notable effect of *H. pylori* infection on children is its association with a variety of gastrointestinal illnesses, from adult stomach cancer to gastric disease and peptic ulcers [24,25]. In younger children infected by *H. pylori*, infections also trigger symptoms that predominantly affect stomach activity [26,27,28]. We found that in this regard, abdominal pain – a typical complication – covered 42% of the children with this complication. Also, clinical outcomes enrolled also that peptic ulcers and complications of the inflammation of the stomach lining were 50% and 28%, correspondingly the most complication prevalent in this current study.

Moreover, *H. pylori* infection in children has been associated with developmental and growth retardation [29]. This happens because the infection inflames the lining of the stomach, making it more difficult for nutrients required for development and growth to be absorbed. Furthermore, a child's overall immunity may be weakened by an *H. pylori* infection, which might lead to a rise in infections and illnesses. [30,31,32,33]

The presence of these symptoms might compromise a child's general health and perhaps shorten their life expectancy due to discomfort and challenges in carrying out daily tasks. The prevalence in *H. Pylori* infection in children has the potential to seriously harm both their health and well-being. [34,35,36,37,38]



5. Conclusion

The frequency in *H. pylori* infection in children tends to rise with age, with higher rates seen in older age groups. Children's quality of life and health can be greatly impacted by the high incidence of *H. pylori* infection.

6. References

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