

ORIGINAL ARTICLE

Prevalence of Helicobacter Pylori in Children with Recurrent Abdominal Pain

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ABSTRACT

Background: In children the recurrent abdominal pain is a commonest reason for seeking medical care. In various studies, H pylori and abdominal pain were shown to be significantly correlated in paediatric patients.

Objective: To assess the prevalence of helicobacter pylori in children with recurrent abdominal pain

Methodology: The current cross sectional study was carried out at the Pediatrics department Sandeman Provincial Hospital Quetta from March 2022 to August 2022. The research included all children with recurrent abdominal pain (according to Rome II criteria) who met the inclusion requirements. Under strict aseptic conditions, five milliliters of blood were taken and sent to the hospital laboratory for ELISA-based H pylori identification. All the information was entered into a predesigned proforma. For the analysis of data, IBM SPSS version 23 was used.

Results: In our study, totally 150 children who met the inclusion criteria were enrolled. The male children in our study were 108 (72%) while female children were 32 (28%). The mean age (\pm SD) was 10 (\pm 4.36) years. Based on ELISA, the helicobacter pylori prevalence was 39 (26%) in children with recurrent abdominal pain.

Conclusion: Our study concludes that the in children with recurrent abdominal pain, the helicobacter Pylori prevalence is very high. All the children who visit the pediatrics clinics and having recurrent abdominal pain should be diagnosed for helicobacter pylori.

Keywords: Prevalence; helicobacter pylori; children; recurrent abdominal pain

INTRODUCTION

In children the recurrent abdominal pain is a commonest reason for seeking medical care. Although it appears to be a benign condition, recurrent abdominal pain has a number of morbidities, including poor academic performance, hospitalization, and laprotomies. Additionally, symptoms may sometimes last into adulthood^{1, 2}. Due to recurrent abdominal pain on a daily basis, which leads to more medical visits and has a negative impact on children's wellbeing, 10% to 15% of schoolchildren experience social isolation, poor physical capabilities, and school absences^{3, 4}. One-third of the population suffers from abdominal pain at the age of five years; but the exact burden of the illness is underreported⁵. One of the complications that might occur in adulthood as a result of recurrent abdominal pain in infancy is irritable bowel syndrome, which is a functional gastrointestinal condition⁶.

The pathogenic Gram-negative spiral bacteria, H. pylori grows in the acidic environment of the stomach. Adenocarcinoma of the stomach, mucosa-associated lymphoid tissue (MALT) lymphoma, peptic ulcers, non-ulcer dyspepsia, and chronic gastritis are all caused by this pathogenic bacterium. According to estimation, H. pylori infection affects 50% of the world's population. At the moment, H. pylori is targeting the developing world⁷. Long-term exposure to H. pylori is often asymptomatic, although it may cause chronic gastritis in children and is occasionally associated with peptic ulcer disease⁸. In one research, epigastric pain was seen as a warning indicator, and H pylori and abdominal pain were shown to be significantly correlated in paediatric patients⁹. Other investigations have not shown any links of H. pylori infection with the abdominal pain¹⁰. H. Pylori infection was the main cause in 65% of children who presented with dyspepsia recurrent and abdominal pain in a study carried out in Turkey¹¹. According to another research, in children who were presented with recurrent abdominal pain the incidence of H. pylori infection was 8.0%⁸. This research was carried out to find out the helicobacter pylori prevalence in children having recurrent abdominal pain. In order to develop future research plans, we will use the study's results to identify the characteristics of the problem

regionally and to communicate them with other paediatricians and gastroenterologists in the area.

MATERIALS AND METHODS

The current cross sectional study was carried out at the Pediatrics department Sandeman Provincial Hospital Quetta. The study duration was six months after approval of synopsis from March 2022 to August 2022. The sample size of our study was 150 based on WHO sample size calculator. The inclusion criteria of our study were all the children of either gender, having age from 3-15 years with recurrent abdominal pain from the last three months. The exclusion criteria for our study were all the children with history of helicobacter pylori diagnosis and treatment for helicobacter pylori. All the children who were on Proton pump inhibitors (PPIs) were also excluded from the study. The study was approved by the hospital's ethical research committee. The parents gave their written agreement after being briefed on the study's goals and anticipated outcomes. All of the study subjects had a clinical examination and history. The research included all children with recurrent abdominal pain (according to Rome II criteria) who met the inclusion requirements. Under strict aseptic conditions, five milliliters of blood were taken and sent to the hospital laboratory for ELISA-based H pylori identification. One experienced pathologist conducted all tests at the hospital laboratory. All the information was entered into a predesigned proforma. For the analysis of data, IBM SPSS version 23 was used. Frequencies (Percentages) were computed for gender and H.pylori whereas the means (standard deviations) were computed for age and recurrent abdominal pain duration.

RESULTS

In our study, totally 150 children who met the inclusion criteria were enrolled. The male children in our study were 108 (72%) while female children were 32 (28%). (Figure 1) The mean age (\pm SD) was 10 (\pm 4.36) years. In our study, 25 (16.67%) patients were up to 5 years of age, 53 (35.33) patients were 6-10 years old while 72 (48%) patients were 11-15 years of age. (Figure 2) The

mean abdominal pain duration was 4.52 ± 2.11 months. Based on ELISA, the helicobacter pylori prevalence was 39 (26%) in children with recurrent abdominal pain. (Figure 3)

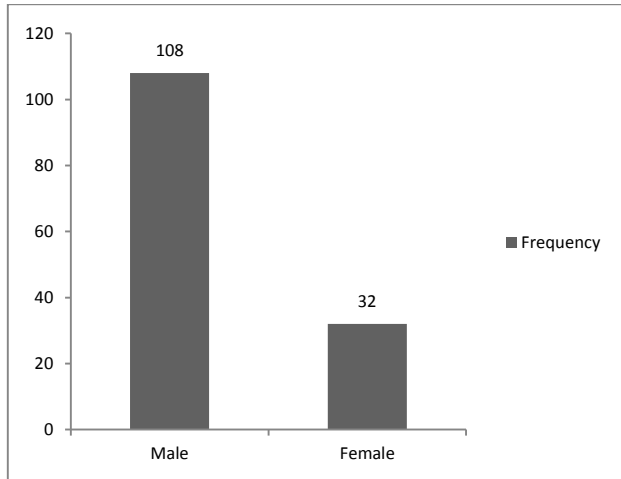


Figure 1: Patients distribution based on gender

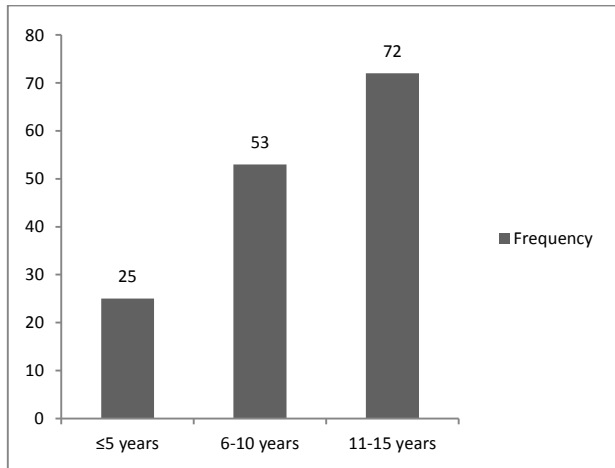


Figure 2: Patients distribution based on age

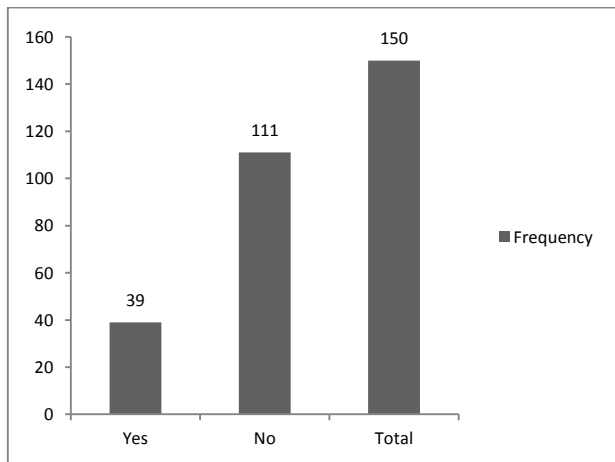


Figure 3: Frequency of helicobacter pylori in children with recurrent abdominal pain

DISCUSSION

There is a spectrum of diseases that may appear as recurrent abdominal pain¹². The incidence of H. pylori affects children more often in underdeveloped nations, where it may vary from 15 to 70%¹³⁻¹⁵. It is believed that the Helicobacter pylori are a significant cause of certain gastrointestinal illnesses¹⁶. Males and older people are more likely than younger people to have H. Pylori^{17, 18}. Other closely associated determinants for H. pylori include low socioeconomic position, poor hygiene, and large size of family^{19, 20}. Children often have recurrent abdominal pain²¹, which is defined as at least three episodes of discomfort that disrupt daily activities over the three-month period of time²¹.

In our study, totally 150 children who met the inclusion criteria were enrolled. The male children in our study were 108 (72%) while female children were 32 (28%). The mean age (\pm SD) was 10 (\pm 4.36) years. In our study, 25 (16.67%) patients were up to 5 years of age, 53 (35.33) patients were 6-10 years old while 72 (48%) patients were 11-15 years of age. The mean abdominal pain duration was 4.52 ± 2.11 months. Based on ELISA, the helicobacter pylori prevalence in children with recurrent abdominal pain was 39 (26%). A study carried out by Jahanzeb Khan et al. reported 24.3% h.pylori prevalence in children with recurrent abdominal pain which is almost similar with our findings²². A study done by Faiza Rasool et al. reported 47% prevalence of h.pylori in children which is not in accordance with our findings²³. A research work carried out by H. Alimohammadi et al. in Iran reported 55% prevalence of h.pylori in recurrent abdominal pain children²⁴. According to research conducted by Malaty and colleagues, H. pylori infection is present in around 81% of children who have recurrent abdominal pain which is not in line with the findings of our study. The infection primarily appears in childhood and differs amongst groups²⁵. Our findings are comparable to those obtained by Rasool F. and colleagues from Lahore, who observed that that 47% children diagnosed with recurrent abdominal pain, had the H. pylori infection²³. According to statistics collected in Saudi Arabia, the prevalence of H.pylori was as high as 73% among children diagnosed with recurrent abdominal pain²⁶. In children who were presented with recurrent abdominal pain, H. pylori prevalence was reported in Turkey to be 49%, which is comparable to what we reported²⁷. Researchers looking at the link between recurrent abdominal pain and H. pylori have found contradictory findings. Different diagnostic criteria, age, racial variances, and geographical variations may all contribute to variations in the incidence of infection caused by H. pylori in recurrent abdominal pain amongst children^{28, 29}.

CONCLUSION

Our study concludes that the in children with recurrent abdominal pain, the helicobacter Pylori prevalence is very high. All the children who visit the pediatrics clinics and having recurrent abdominal pain should be diagnosed for helicobacter pylori.

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