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Detection of *Helicobacter pylori* using stool PCR and associated factors among patients with gastroduodenal disorders at Teaching Hospital, Jaffna

Sinthuja S[1], Kaarunya P[1], Amaya GP[1], Saseevan S*[1,] Gnanakarunyan TJ[1], Kajendran A[2], Ramachchandran R[3], Mark Mithulan FJ[3]
[1]*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, UoJ*
[2]*Gastroenterology Unit, Teaching Hospital, Jaffna*
[3]*Department of Clinical Virology and Molecular Biology, Teaching Hospital, Jaffna*
*ssumana@univ.jfn.ac.lk

Introduction: *Helicobacter pylori* infection remains a significant health concern in developing countries, with considerable variation in prevalence according to various risk factors. There is a need to develop a non-invasive diagnostic method for detecting Helicobacter pylori infection, as current routine diagnostic methods often involve invasive procedures.

Objectives: To determine the prevalence of *Helicobacter pylori* infection in the stool sample using molecular technique, PCR, and associated factors among patients with gastroduodenal disorders at the Gastroenterology unit, Teaching Hospital, Jaffna.

Methodology: A cross-sectional study was conducted on fifty-two stool samples obtained from patients having gastroduodenal disorders with a mean age of 56.31±14.59 years. Genomic DNA extraction from stool samples was performed using the silica-based spin column technique. Extracted DNA was subjected to real-time PCR targeting *Helicobacter pylori-specific* primer, the *ureA* gene. The socio-demographic factors such as age, gender, geographical location and MOH division, clinical factors such as the history of gastroduodenal and extra-gastroduodenal disorders, life style factors such as consumption of main meals on time, habit of fasting, smoking, alcohol consumption and handling animals and environmental factors such as source of drinking water, hand hygiene and household crowding index were analyzed using bivariate analysis such as chi-square test and Fischer's exact test.

Results: About 7.7% (4/52) were found to be positive for *Helicobacter pylori* infection. A significant association was found between *Helicobacter pylori* infection and family history of gastritis (p<0.001) and peptic ulcers (p=0.022), and hand hygiene (p=0.022).

Conclusions: Our findings highlight that there was a 7.7% prevalence of *Helicobacter pylori* infection in patients with gastroduodenal disorders attending the Gastroenterology Unit, Teaching Hospital, Jaffna, and a significant association was found between *Helicobacter pylori* infection and family history of gastritis and peptic ulcers, and hand hygiene practices. but comparison of the findings with the gold standard method will be required for further confirmation.

Keywords: Gastroduodenal disorders, *Helicobacter pylori*, Real-time PCR, Stool samples, *ureA*