



PREVALENCE OF HELICOBACTER PYLORI IN RELATION TO SOCIOECONOMIC STATUS

Gastroenterology

Dr. M. Kannan	Department Of Medical Gastroenterology, Government Rajaji Hospital, Madurai - 625020, Tamilnadu, India
Dr. R. Ramani*	Department Of Medical Gastroenterology, Government Rajaji Hospital, Madurai - 625020 Tamilnadu, India - *corresponding Author
Dr. E. Kandasamy alias Kumar	Department of Medical Gastroenterology, Tirunelveli Medical College, Tirunelveli-627011, Tamilnadu, India

ABSTRACT

BACKGROUND. H.Pylori infects people worldwide and is generally associated with unhygienic conditions and poor socioeconomic status. We studied the prevalence of H.Pylori in dyspeptic subjects according to their socioeconomic status. **Aim:** To study the prevalence of Helicobacter pylori in relation to socioeconomic status. **Methods:** A total of 224 patients with new onset dyspepsia were included in the study. They were classified according to the socioeconomic status using the Modified Kuppuswamy classification which utilizes three parameters namely education, occupation and monthly income. Socioeconomic status score was assigned to each patient. Upper gastrointestinal endoscopy was performed in all patients and antral mucosal sample was obtained for ultra rapid urease reaction for detection of Helicobacter pylori. **Results:** Out of 224 patients, 21 (9.3%) were from the lower socioeconomic class, 85 (37.9%) from the upper lower class, 91 (40.6%) from lower middle class and 27 (12%) from the upper middle class. The lower and upper lower classes were combined together as lower socioeconomic status (47.4%) and the lower middle and upper middle classes were combined together as middle socioeconomic status (52.6%). In the middle socioeconomic status, 54 out of 118 (45.8%) tested positive when compared with the lower socioeconomic status in which 78 out of 106 (73.6%) were positive ($p < 0.01$). **Conclusions;** Helicobacter pylori infection rates were higher among the lower socioeconomic classes.

KEYWORDS

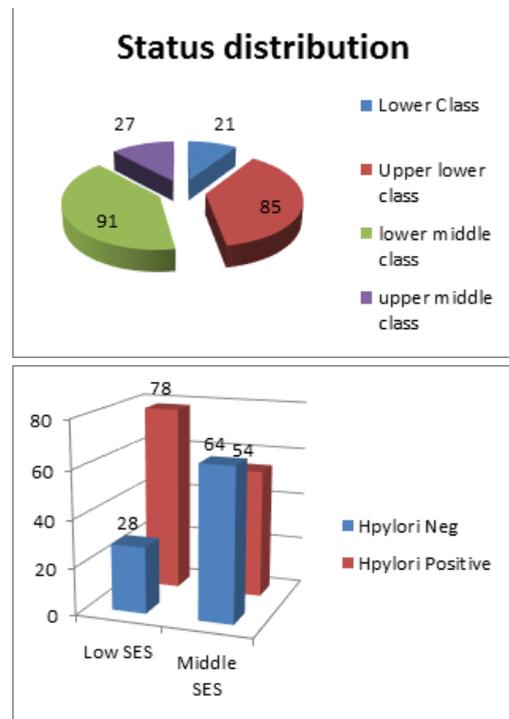
BACKGROUND:

Helicobacter pylori infection, has been found to play a major etiologic role in the causation of peptic ulcer disease, gastric mucosa-associated lymphoid tissue lymphoma, and gastric cancer. H. pylori infection confers more than two-fold increased risk for developing gastric cancer in Asian population. In places where the prevalence of H. pylori is high, rates of mortality from stomach cancer are found to be clustered especially in aboriginal townships. Helicobacter pylori infections are usually acquired in pediatric age group and if not treated adequately become persistent for the rest of an individual's life. Therefore, the major reported risk factors for infection in developing countries are poor socioeconomic conditions and poor hygiene during childhood. H.Pylori infects people worldwide and is generally associated with unhygienic conditions and poor socioeconomic status. We studied the prevalence of H.Pylori in dyspeptic subjects according to their socioeconomic status.

Aim: To study the prevalence of Helicobacter pylori in relation to socioeconomic status.

Methods: Study design: Cross sectional study. Study population: Patients attending Department of Medical Gastroenterology, Government Rajaji Hospital, Madurai from January 2017 to January 2018. A total of 224 patients with new onset dyspepsia were included in the study. They were classified according to the socioeconomic status using the Modified Kuppuswamy classification which utilizes three parameters namely education, occupation and monthly income. Socioeconomic status score was assigned to each patient. Upper gastrointestinal endoscopy was performed in all patients and antral mucosal sample was obtained for ultra rapid urease reaction for detection of Helicobacter pylori.

Results: Out of 224 patients, 21 (9.3%) were from the lower socioeconomic class, 85 (37.9%) from the upper lower class, 91 (40.6%) from lower middle class and 27 (12%) from the upper middle class. The lower and upper lower classes were combined together as lower socioeconomic status (47.4%) and the lower middle and upper middle classes were combined together as middle socioeconomic status (52.6%). In the middle socioeconomic status, 54 out of 118 (45.8%) tested positive when compared with the lower socioeconomic status in which 78 out of 106 (73.6%) were positive ($p < 0.01$).



DISCUSSION:

Socioeconomic and living conditions form the major risk factors for H. pylori infection, and person-to-person spread of infection among family members in peridomestic transmission in early childhood plays an important role in its spread among family members. Humans are the only known host of H. pylori, and direct person-to-person contact is thought to be the primary route of transmission of the infection in developed countries. In our study, we found an association between low socioeconomic status and H. pylori infection. Brenner et al observed that the risk of H. Pylori infection increased if living with an infected partner for many years. Marshall states a patient who married into a family with gastric ulcers and subsequently developed a duodenal ulcer. In a large meta-analysis, de Martel and Parsonnet

found that male was predominant adults with *H. pylori* and that this trend was seen universally. Recently the spectrum of *H. pylori*-related conditions has been expanded to include gastroesophageal reflux disease and obesity. Results of some studies have reported an association of *H. pylori* infection with obesity and insulin resistance. However, an inverse correlation between obesity and *H. pylori* has also been reported in other studies, where increased weight gain has been reported in patients after eradication of *H. pylori*. BMI and waist and hip circumference were not significantly associated with *H. pylori* infection in some study. The personal habits of study participants, such as chewing betel and consuming alcohol, also affected the prevalence of *H. pylori* infection seen in some studies. Popular habit in Asian countries is chewing betel also seen in other tropical countries also very common in Taiwan and its offshore islands. Increased risk of oral cancer and oral submucous fibrosis were associated with betel chewing is an. betel chewers displayed high positivity for *H. pylori* infection on serologic studies in a study conducted in Sri Lanka In our study the lower and upper lower classes were combined together lower socioeconomic status (47.4%) and the lower middle and upper middle classes were combined together as middle socioeconomic status (52.6%). In the middle socioeconomic status, 54 out of 118 (45.8%) tested positive when compared with the lower socioeconomic status in which 78 out of 106 (73.6%) were positive ($p < 0.01$).

CONCLUSIONS;

Helicobacter pylori Infection rates were higher among the lower socioeconomic classes.

REFERENCES

1. B.J. Marshall *Helicobacter pylori* Am J Gastroenterol, 89 (1994), pp. S116-S128
2. N. Uemura, S. Okamoto, S. Yamamoto, N. Matsumura, S. Yamaguchi, M. Yamakido, et al. *H. pylori* infection and the development of gastric cancer N Engl J Med, 345 (2001), pp. 784-789
3. C.J. Chen, S.L. You, L.H. Lin, W.L. Hsu, Y.W. Yang Cancer epidemiology and control in Taiwan: a brief review Jpn J Clin Oncol, 32 (Suppl) (2002), pp. S66-S81
4. M. Rowland, B. Drumm Clinical significance of *H. pylori* infection in children Br Med Bull, 54 (1998), pp. 95-103
5. J. Torres, G. Pérez-Pérez, K.J. Goodman, J.C. Atherton, B.D. Gold, P.R. Harris, et al. A comprehensive review of the natural history of *H. pylori* infection in children Arch Med Res, 3 (2000), pp. 431-469
6. C.A. Malcolm, W.G. MacKay, A. Shepherd, L.T. Weaver *H. pylori* in children is strongly associated with poverty Scott Med J, 49 (2004), pp. 136-138
7. M.C. Páez Valery, M.A. Barón, L. Solano, G. Nadaff, J. Boccio, A. Barrado *H. pylori* infection (13C-U¹³C), and its relationship with nutritional and socioeconomic factors in low income school children from Valencia, Venezuela Arch Latinoam Nutr, 6 (2006), pp. 342-349]
8. A.B. Braga, A.M. Fialho, M.N. Rodrigues, M. Queiroz, A.M. Rocha, L.L. Braga *H. pylori* colonization among children up to 6 years: results of a community-based study from Northeastern Brazil
9. J Trop Pediatr, 53 (2007), pp. 393-397
10. F. Bazzoli, L. Cecchini, L. Corvaglia, M. Dall'Antonia, C. De Giacomo, S. Fossi, et al. Validation of the 13C-urea breath test for the diagnosis of *Helicobacter pylori* infection in children: a multicenter study Am J Gastroenterol, 95 (2000), pp. 646-650
11. D.B. Lin, W.T. Nieh, H.M. Wang, M.W. Hsiao, U.P. Ling, S.P. Changlai, et al. Seroprevalence of *Helicobacter pylori* infection among preschool children in Taiwan Am J Trop Med Hyg, 61 (1999), pp. 554-558
12. H. Brenner, D. Rothenbacher, G. Bode, P. Dieudonné, G. Adler Active infection with *H. pylori* in healthy couples Epidemiol Infect, 122 (1999), pp. 91-95
13. B. Marshall Commentary: a unifying mathematical hypothesis for the epidemiology of *H. pylori*-associated diseases—plurality should not be assumed without necessity Int J Epidemiol, 35 (2006), pp. 1097-1098
14. C. de Martel, J. Parsonnet *H. pylori* infection and gender: a meta-analysis of population-based prevalence surveys Dig Dis Sci, 51 (2006), pp. 2292-2301