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microscopic and microbiological, nutritional, socioeconomic, and dietary data were also collected. Data were analyzed by  $\chi^2$  test and logistic regression.

**RESULTS:** The study included 61, 51 and 64 children as PD, AD and controls respectively. Age and socioeconomic status among the three groups were comparable. Malnutrition (wt.age <75% of NCHS median) was noted in 41 (67%) children with PD, 30 (59%) with AD, and 44 (69%) in controls. The number of HP positive children was 34 (56%) in PD, 23 (45%) in AD, and 25 (39%) in controls, without any significant difference. However, among the malnourished children, HP infection was significantly more often present in the PD group ( $p=0.04$ ), but not in the AD group, when compared to the controls (Table). In logistic regression, HP infection appeared to be a significant risk factor for PD (Odds ratio 1.91, 95% confidence interval 1.06–3.44,  $p=0.042$ ), but not for AD. The covariates in the regression equation were age, gender, nutritional status, socioeconomic status, fecal pathogens, breast-feeding, immunization, mother's education, and place of residence.

Table 1. HP infection in malnourished children

	PD	AD	Controls
HP positive	24	13	15
HP negative	17	17	29

$\chi^2$  test,  $p$  – Overall 0.08, PD vs control 0.04; AD vs control 0.58.

**CONCLUSION:** A significant association was noted between HP infection and PD in malnourished Bangladeshi children. Intervention of HP infection may decrease the incidence of PD in this vulnerable population. *Gut 2006; 55 (Suppl 1) A83*

#### MON-G-16 EFFECT OF EDUCATION AND HYGIENIC HABITS ON PREVALENCE OF HELICOBACTER PYLORI INFECTION

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**INTRODUCTION:** Certain social conditions influencing the acquisition of *H. pylori* (Hp) infection are well recognized, but the effect of education and personal hygienic habits on prevalence of Hp is still not clear.

**AIMS & METHODS:** Two thousand healthy adults were randomly invited to an academic hospital in Poland to fill out a questionnaire regarding socioeconomic and demographic conditions, education level and hygienic habits. Blood samples were collected and tested for IgG antibodies to Hp by ELISA test.

**RESULTS:** 793 (39.7%) participants provided complete data. Average prevalence of Hp infection (82.6%) and did not differ among individuals living in a capital of province (81.6%), urban city (82.8%) and rural area (83.6%). Individuals who were born in a village had higher prevalence of Hp (88.9%) than those born in a small (82.1%) or big city (77.8%) ( $p=0.004$ ). Prevalence of Hp infection was significantly higher in individuals with no (100%) or elementary education (87.9%) than in those with higher education level (high school – 74.3%, college – 77.1%). Every day bathing was associated with 79.2% prevalence of Hp infection, while doing it once a week with 90.3% ( $p=0.03$ ). Changing underwear on daily basis was associated with 79.2% infection rate, while doing it once a week with 92.4% ( $p=0.04$ ). Brushing teeth three a day was associated with 71.8% prevalence while doing it once a day with 88.3% ( $p=0.01$ ).

Table 1. Association between Hp infection and patients' education

Education	Total n/%	Hp-positive n/%	Hp-negative n/%
Uneducated	13/1.7	13/100	0
Elementary school	173/22.4	152/87.9	21/12.1
Vocational school	194/25.1	164/84.5	30/15.5
Technical school	148/19.2	121/81.1	27/18.2
High school	101/13.1	75/74.3	26/25.7
College	48/6.2	37/77.1	11/22.9
University	95/12.3	76/80.0	19/20.0

**CONCLUSION:** Education level and hygienic habits seem to promote Hp infection. *Gut 2006; 55 (Suppl 1) A84*

#### MON-G-17 DECREASING SEROPREVALENCE OF HELICOBACTER PYLORI INFECTION DURING 1993–2003 IN GUANGZHOU, SOUTH CHINA

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**INTRODUCTION:** The prevalence of Helicobacter pylori infection is inversely associated with socioeconomic conditions. In Guangzhou, a representative city of south China, high prevalence of *H. pylori* infection has been observed in 1993. Since then, after 10 years, profound social and economic changes have taken place in this city.

**AIMS & METHODS:** The aim of the study was to evaluate changes in the seroprevalence of *H. pylori* infection during 1993–2003 in Guangzhou. From March to August 2003, sera were collected from 1471 healthy persons (760 males and 711 females, aged 3–92 years) undergoing annual routine health examination in Guangzhou city according to the same inclusion criteria in 1993. *H. pylori* infection status was checked by enzyme-linked immunosorbent assay (ELISA) with the same ELISA assay system used in 1993.

Table 1. Comparison of *H. pylori* seroprevalence rate between 1993 and 2003 by age

Age (yrs)	Seroprevalence rate (%)		P value
	1993 (no. of persons)	2003 (no. of persons)	
1+	30.8% (49/159)	19.4% (36/180)	0.024
5+	38.8% (33/85)	22.9% (24/105)	0.025
10+	48.5% (63/130)	36.8% (68/185)	0.048
20+	65.2% (88/135)	53.4% (135/253)	0.031
30+	72.6% (74/102)	54.1% (106/196)	0.003
40+	76.2% (83/109)	63.2% (129/204)	0.022
50+	68.2% (75/110)	55.8% (194/348)	0.026
Total	56.0% (465/830)	47.0% (692/1471)	0.0001
Age-standardized rate	62.5%	49.2%	0.0001

**RESULTS:** In 2003, the overall prevalence rate of *H. pylori* infection was 47% with no gender difference ( $P>0.05$ ). Children aged 1–5 years had the prevalence rate of

19.4%. The prevalence rate then increased steadily with annual infection rate of ~5% after this age. The seroprevalence rate was 63.2% at 40–50 years. For comparison with the previous *H. pylori* seroprevalence study performed in Guangzhou city a decade ago, age-standardized *H. pylori* seroprevalence rates of both 1993 and 2003 were calculated by direct standardization using the data of the Fifth Chinese Census (2000) in Guangdong Province as the standard population. The overall age-standardized *H. pylori* seroprevalence rate was 62.5% in 1993 and 49.2% in 2003. The prevalence of *H. pylori* was found to be significantly decreased over a time span of 10 years ( $p<0.001$ ).

**CONCLUSION:** Our data suggest that the seroprevalence of *H. pylori* infection significantly decreased during the 10-year period in Guangzhou. This change may be attributable to the changes in environmental condition and socioeconomic development that have taken place in this city. *Gut 2006; 55 (Suppl 1) A84*

#### MON-G-18 THE ROLE OF HEALTHY ASYMPTOMATIC RELATIVES IN THE COURSE OF HELICOBACTER-ASSOCIATED PEPTIC ULCER

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**INTRODUCTION:** There are data about Helicobacter pylori (Hp) infection in asymptomatic patients and their possible role as a source of infection and influence the effectiveness of eradication (Rotenbacher D. et al., 2002 [1]).

**AIMS & METHODS:** Investigation of Hp infection level and the epidemiological significance of family members in Hp spreading and ascertaining the expediency of simultaneous eradication therapy in relatives of patients with Hp infection and peptic ulcers. 125 patients with peptic ulcer and 124 healthy asymptomatic relatives (involving 47 children) were included in the research. The criteria including healthy asymptomatic relatives were negative answers on questions about symptoms of the disease during the primary examination. The examination included cytological, histological, breathing, immune-ferment tests on Hp, computerized thermometry and pH-metry. Patients and their relatives underwent these tests both at 3, 6, 12 months after the eradication therapy.

**RESULTS:** The Hp infection index in relatives of patients with Hp-associated peptic ulcer was  $83 \pm 2.5\%$  ( $M \pm SE$ ) and it is twice as much as in the control group. A strong correlation ( $p<0.01$ ) was determined between the duration of united dwelling (more than 10 years) and the Hp infection, also between the diseases of the gastro-duodenal zone (chronic gastritis – 44%, peptic ulcer – 16%; in 11 cases the signs of the disease developed during the research) and the possibility of Hp-associated disease development in seropositive relatives. The early infectivity during a year in patients after successful eradication therapy was  $81.5 \pm 4.5\%$  ( $p<0.05$ ). Simultaneous treatment of all infected family members (omeprazole 2 mg 2/day, claritromycin 500 mg 2x furasolidon 200 mg 2/day  $\times 10$  days) enabled to achieve successful eradication in significantly higher percentage of persons ( $84.4 \pm 5.1\%$ ,  $p<0.05$ ).

**CONCLUSION:** A high percentage of Hp infectivity is observed among family members living together with peptic ulcer patients. Simultaneous eradication therapy, couple members or their children with dyspepsia syndrome improves the remission of treatment, decreases the frequency of early reinfection of patients and decreases possibility of disease's development in Hp-seropositive relatives.

**REFERENCE(S):** [1] Rotenbacher D, Winkler M, Gonsler T, Adler G, Brenner B. Role of infected parents in transmission of Helicobacter pylori to their child. Pediatric Infectious Disease J. 2002; 21(7): 674–679. *Gut 2006; 55 (Suppl 1) A84*

#### MON-G-20 HELICOBACTER PYLORI, INTESTINAL METAPLASIA AND GASTRIC ATROPHY: ROLE OF AGE AND GENDER

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**INTRODUCTION:** The criteria for the characterization of the group of patients that would most benefit from Helicobacter pylori (Hp) eradication, in order to prevent gastric cancer, are still uncertain. Our aim was to estimate the relation between Hp infection, intestinal metaplasia (IM) and gastric atrophy (GA), considering various factors like age and gender.

**AIMS & METHODS:** From June 1998 to June 2000, 1310 consecutive patients (810 males and 500 females, median age 59.8 $\pm$ 17), never treated for Hp previously, had been studied by EGDS with 4 biopsies from gastric antrum and corpus (antrum and Sydney System). Odds Ratios of association (OR) were calculated with logistic regression. The age has been stratified on two levels: <45 and >45 years and status in 4 bands (considering the quartiles' values): <50, 50–62, 63–72, >72 yrs.

**RESULTS:** The association between Hp infection and presence of IM is  $p=0.01$  in females (OR adjusted for age = 1.7;  $p=0.01$ ) than in males (OR = 1.3;  $p=0.12$ ). The association between Hp infection and presence of GA is also more evident in females (OR = 1.6;  $p=0.03$ ), while in males the association is weak (OR = 0.26). Controlling for the gender, IM and GA are meaningfully associated with the Hp infection in the first class of age (<49 years); IM OR = 2.9 ( $P=0.003$ ), OR = 2.5 ( $P=0.001$ ). In the other classes of age, such associations are non-significant: age 50–62: IM OR = 1.08 ( $p=0.94$ ) and GA OR = 0.9 ( $p=0.97$ ); age 63–72: IM OR = 1.2 ( $p=0.45$ ) and GA OR = 1.0 ( $p=0.89$ ); age >72: IM OR = 1.3 ( $p=0.32$ ), GA OR = 0.8 ( $p=0.85$ ).

**CONCLUSION:** Our study demonstrate that the association between Hp infection and potentially precancerous gastric lesions is meaningful only in youngest age (<50 years). These results suggest that Hp eradication could be useful only in this class of population and may be used to select patient that need treatment. *Gut 2006; 55 (Suppl 1) A84*

#### MON-G-21 THE INFLUENCE OF HELICOBACTER PYLORI INFECTION ON THE PREVALENCE OF ENDOSCOPIC ESOPHAGITIS IN A TURKISH POPULATION

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**INTRODUCTION:** This study aimed to determine the frequency of minor esophagitis, and Helicobacter pylori (H. pylori) infection in a large Turkish population over a 5-yr period.

**AIMS & METHODS:** We studied a consecutive series of 14,380 patients who had been newly referred for diagnostic esophagogastroduodenoscopy from 2000 to 2005. The mean age value was 45 $\pm$ 10 (18–89) years. All endoscopic findings prospectively recorded. From 2000, an antral biopsy was taken from patients in-house biopsy urease test. Endoscopic esophagitis was defined as the presence