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The Effect of Socioeconomic Status during Childhood on the Risk of Contracting H. Pylori

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ABSTRACT

Sanitation and water quality would play an important role in the acquisition and spread of H. pylori. In addition, the United Nations designated 2008 as the "International Year of Sanitation" to raise awareness related to sanitation issues worldwide and advance the Millennium Development Goal of decreasing the number of 2.6 billion people who lack access to even the most basic sanitation by 2015. This study aimed to identify the Helicobacter pylori-related risk variables.

Methods

All patients, regardless of gender, aged between 17 and 65 years, were interviewed and were asked to complete the questionnaires developed in this study. Here, the participants were asked to present their stool samples to determine the presence of H. pylori with the help of the HpSAg kit. Thereafter, the data was assessed using the SPSS statistical software, and P-value =0.05 were regarded as statistically significant.

Results

Out of the 100 participants included in this study, 65 (65%) were male, whereas 35 (35%) were women. The participants who had drunk unfiltered water during their childhood presented the highest infection rate (87.5 %) with P-value<0.05; whereas the participants who drank filtered water during their childhood showed an infection rate of 50.0%.

Conclusions:

The results of this study showed that the socioeconomic status of the participants during their childhood could be considered a risk factor for H. pylori infections.

INTRODUCTION

Even though peptic ulcer disease has a low fatality rate, it is quite common, causes severe pain, and is exceedingly expensive to cure. 35% of the patients with stomach ulcers were primarily affected, and these patients would experience serious side effects. This disease significantly affects the healthcare system in our society (1). A few of the established risk factors include congestion, poor sanitation and hygiene, and low socioeconomic status(2). Several factors were associated with *H. pylori* infection in patients such as their ethnicity, prevalence of dyspeptic symptoms, and socioeconomic status in early childhood (3). Numerous studies have established a general correlation between the prevalence of non-white skin tone, lower education, aging, low family income, bad socioeconomic status during childhood, large families, more siblings, the childhood stages, and the incidence of dyspeptic symptoms (4).

METHODS

The participants in this study included 100 individuals with *H. pylori* symptoms (abdominal discomfort, vomiting, and anorexia) from different areas in Basrah. All participants were interviewed and asked to complete the questionnaires. The questionnaires revealed the presence of highly-vulnerable groups. In the past two months, none of the individuals had used any antibiotics or undergone a specialized treatment strategy for eradicating *H. pylori* infection (PPI, H2 antagonist). All of the participants provided stool samples, which were then sent to the lab for detecting the *H. pylori* infection using the HpSAg kit. The acquired data were statistically analysed using the SPSS software (ver. 23).

RESULTS

Table 1 presents the maximal proportion of infection among the patients based on the type of water drunk during childhood, with the highest percentage of infection (87.5%) found in patients who had drunk unfiltered water in their childhood. The type of water consumed throughout childhood showed a significant statistical effect (Table 2).

Table 1: Type of drinking water during childhood

			H. pylori	
			Negative	Positive
Type of water during childhood	filtered water	CountCount	2	2
		%	50.0%	50.0%
	unfiltered water	Count	12	84
		%	12.5%	87.5%
Total		Count	14	86
		%	14.0%	86.0%

Table 2: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.485[a]	1	.034
Continuity Correction[b]	1.911	1	.167
Likelihood Ratio	3.108	1	.078
Fisher's Exact Test			
Linear-by-Linear Association	4.440	1	.035
N of Valid Cases	100		
a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .56.			
b. Computed only for a 2x2 table			

DISCUSSION

The type of drinking water consumed as a child is considered a risk factor for *H. pylori* infection. This study compared the data derived from patients who drank unfiltered water (87.5%) and or filtered water (50.0%) during childhood. Water contamination is an important factor that affects the transmission of the virus. Water may be a critical and underrated route of Helicobacter transmission due to faecal pollution (5). This notion is further supported by data related to the high infection rates in countries that rely on untreated water (6). According to a 1996 retrospective study conducted in Peru, those who drank municipal water for 2 - 5 years during their childhood, were more likely to be infected (3). Additionally, this conclusion was supported

by a careful examination in which the municipal water in those regions tested positive for *H. pylori*, indicating an elevated incidence of *Helicobacter*-associated gastritis (7,8). Although the type of water consumed as an adult is not believed to be a risk factor for *H. pylori* infection, people who consumed filtered and unfiltered water exhibited comparable infection rates of 87.5% and 75.0%, respectively.

CONCLUSIONS

This study revealed that socioeconomic status throughout childhood could be used as a risk factor for *H. pylori* infection.

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