

The pros and cons of *Helicobacter pylori*

December 27 2011, by Deborah Braconnier

(Medical Xpress) -- The debate over the bacteria *Helicobacter pylori* continues as a new study published in *Clinical Infectious Diseases* shows that people carrying *H. pylori* have a reduced risk of diarrhea from other bacterial causes.

While previous studies have linked *H. pylori* to increased risk of ulcers, [stomach cancer](#) and low iron levels, its role in other areas has been questioned.

This new study, led by Dani Cohen from Tel Aviv University in Israel, looked at 595 male Israeli soldiers. Of these soldiers, a third of them had come into the clinic for diarrhea during field training.

Before training began, all soldiers underwent blood testing. The researchers used this blood to test for levels of *H. pylori* and determined which soldiers were chronically infected with the bacteria.

When comparing these numbers with the incidence of diarrhea, the researchers discovered that between 32 and 36 percent of the soldiers with symptoms of diarrhea had *H. pylori* in their system. However, of the soldiers that never reported symptoms of diarrhea, 56 percent contained levels of *H. pylori*.

Calculations showed that being infected with *H. pylori* accounted for a 60 percent reduced risk of diarrhea from *Shigella* bacteria or other unknown causes. The results also showed a reduced risk from *E. coli*.

The researchers believe that the *H. pylori* may affect the acidity in the gut and create an unsuitable area for the bacteria to settle. Another possible explanation is that, due to the *H. pylori*, the immune system may already be in overdrive and this may help to keep other bacteria from growing in the [digestive system](#).

More information: An Inverse and Independent Association Between *Helicobacter pylori* Infection and the Incidence of Shigellosis and Other Diarrheal Diseases, *Clin Infect Dis.* (2011) [doi: 10.1093/cid/cir916](https://doi.org/10.1093/cid/cir916)

Abstract

Objectives. We examined the association between *Helicobacter pylori* infection and the incidence of diarrheal diseases.

Methods. In a nested case-control study participants were sampled from cohorts of male Israeli soldiers aged 18–21 years, serving in field units and followed up for diarrheal diseases. Case patients ($n = 177$) were subjects who visited the base clinic because diarrhea and were positive for *Shigella sonnei* ($n = 66$), enterotoxigenic *Escherichia coli* (ETEC) ($n = 31$) or negative for bacterial pathogens ($n = 80$; diarrhea of unknown etiology). Controls ($n = 418$) were subjects who did not suffer from a diarrheal disease during the follow-up. They were matched to case patients by training unit and period. Serum samples were obtained from participants at the beginning of their field training and were tested for anti-*H. pylori* immunoglobulin (Ig) G and preexisting *Shigella sonnei* lipopolysaccharide IgG and IgA antibodies using enzyme-linked immunosorbent assay.

Results. The proportion of *H. pylori*-infected subjects was significantly lower among case patients with infection of unknown etiology (36.3%) than among controls (56.0%) (adjusted odds ratio [OR], 0.43; 95% confidence interval [CI], .24–.77; $P = .005$). The proportion of *H. pylori*-infected subjects among case patients with *S. sonnei* shigellosis was also significantly lower than in the control group: 36.3% versus

56.0%. The association persisted after adjusting for sociodemographic variables and preexisting *S. sonnei* serum IgA antibodies (adjusted OR, 0.37; 95% CI, .14–.95; $P = .03$) and IgG antibodies (adjusted OR, 0.38; 95% CI, .14–.99; $P = .04$). The direction of the association between *H. pylori* infection and ETEC diarrhea was similar, albeit not statistically significant.

Conclusions. Our findings suggest an active role of *H. pylori* in protection against diarrheal diseases.

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