

Prevalence of infection and antibiotic susceptibility of helicobacter pylori: An evaluation in public and private health systems of Southern Chile

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Helicobacter pylori colonizes half of the human population. Age, ethnicity, and socioeconomic status are factors that influence the prevalence of the infection. This is important in southern Chile, one of the most unequal regions in the world, where a significant difference in the health access of the population occurs due to the existence of two competing health systems. Moreover, in the last few years, current protocols of *H. pylori* eradication have shown high rates of resistance with reduced therapeutic efficacy. This study reported the epidemiology of infection and attempted to identify divergent points among the population beneficiaries of the two health care schemes in southern Chile. Biopsies from public (n = 143) and private (n = 86) health systems were studied. At the same time, clinical and sociodemographic factors were evaluated. *H. pylori* strains were obtained from gastric biopsies for culture and molecular testing. Antibiotic susceptibility was determined by the agar dilution method. Differences about ethnicity, rural residence, and education ($p < 0.05$) were observed between beneficiaries of the two health systems. The prevalence of *H. pylori* was 45%, with no significant differences regardless of the socioeconomic conditions. The only identified risk factor associated with *H. pylori* infection was Mapuche ethnicity (OR (odds ratio) = 2.30). *H. pylori* showed high resistance rates, particularly against clarithromycin (40%), levofloxacin (43.1%), and

metronidazole (81.8%). This study highlighted the importance of Mapuche ancestry as a risk factor in southern Chile and emphasized the need to search for new eradication strategies as well as further studies evaluating therapeutic efficacy. © 2019 by the authors. Licensee MDPI, Basel, Switzerland.

Antibiotic resistance

Prevalence of *Helicobacter pylori* infection

Public and private health systems

amoxicillin

clarithromycin

levofloxacin

metronidazole

tetracycline

agar dilution

antibiotic sensitivity

Article

bacterial clearance

bacterial colonization

bacterial strain

bacterium culture

bacterium identification

bacterium isolation

Chile

controlled study

cross-sectional study

DNA extraction

dyspepsia

endoscopy

female

health care

health insurance

Helicobacter infection

Helicobacter pylori

histopathology

human

human tissue

male

meta analysis

minimum inhibitory concentration

molecular biology

polymerase chain reaction

prevalence

public health service

stomach biopsy