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Utilization of plant extracts combinations as anti-*Helicobacter pylori* food supplement and therapeutic nutrition for baby milk

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Helicobacter pylori is a common human pathogen infecting about 30% of children and 60% of adults worldwide. It is responsible for diseases such as gastritis, peptic ulcer and gastric cancer. Treatment against *H. pylori* is based on the use of antibiotics, but therapy failure is shown to be higher than 20% and is essentially due to an increase in the prevalence of antibiotic-resistant bacteria, which has led to the search for alternative therapies. In this study, we discuss alternative natural therapy for *H. pylori*. Such therapy consists of different plants (cloves, pepper, cumin, sage, pomegranate peel, ginger, myrrh and liquorice). Such natural plants may modulate the human microbiota and promote health, prevent antibiotic side effects, stimulate immune response and directly compete with pathogenic bacteria. Phytochemical therapy consists of the use of previous plant extracts as medicine or health-promoting agents and biologically active natural products such as tannins, glycosides, alkaloids, flavonoids, terpenoids, saponins, phenolic compounds, reducing sugars, volatile oils, amino acids and proteins. Different plant extracts were examined individually or in combinations for their antimicrobial effects on *Helicobacter pylori*. Results showed strong inhibition of *H. pylori* by measuring the clear zones diameters of water extracts of the different mixtures of eight medicinal plants (Mix1, Mix2, Mix3, and Mix4) against *Helicobacter pylori* that give clear zones (cm) 2.1, 3.9, 2.3 and 2.8, respectively. Such different plant extracts combinations proven to be a promising tool for enhancing baby milk.

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