Abstract

Aims: To evaluate the activities of six *Lactobacillus delbrueckii* subsp. *bulgaricus* (LB) strains against 30 *Helicobacter pylori* strains by agar-well diffusion method.

Methods and Results: LB cultures [4 × 10⁸–4 × 10⁹ CFU ml⁻¹] either were prepared in milk at their native pH, 3.8–5.0, or were adjusted to pH 6.4–7.7. At low and neutralized pH, LB strains inhibited the growth by 40–86.7% and 16.7–66.7% of *H. pylori* strains, respectively. LB activity was strain-dependent. At low and neutralized pH, one and five *H. pylori* strains, respectively, were not inhibited by any LB strain. LB2 and LB3, taken together, were active against most metronidazole and clarithromycin resistant strains.

Conclusions: All LB strains inhibited a number of *H. pylori* strains, including also antibiotic resistant strains. LB activity was strain-dependent and better at low pH. At low pH values, the most active LB strains were LB1, LB2 and LB3, inhibiting 86.7% of *H. pylori* strains, while at neutralized pH values, the most active LB strains were LB2 and LB3, inhibiting 53.3 and 66.7% of *H. pylori* strains, respectively.

Significance and Impact of the Study: LB could be utilized in the treatment or prophylaxis of *H. pylori* infection and warrants clinical investigations.