Antagonistic effect of lactic bacteria present in yoghurt against pathogenic bacteria

Abstract

Background & Objective: Probiotics have been defined as live microorganisms that confer a health effect on the host when consumed in adequate amounts. Lactic bacteria play an important role in production and maintenance of the fermented and probiotic products. The aim of this study was to determine the efficacy of lactic bacteria, which isolated from yoghurt against Gastrointestinal pathogenic microorganisms in the Golestan province in North of Iran.

Materials & Methods: In this descriptive study we used 96 strains which belong to 12 species of Lactobacillus and 5 species of Lactococcus, that isolated from home made yoghurt, and their antimicrobial effect on 7 species of important intestinal pathogenic microorganisms were examined. After growing the Lactic bacteria in broth media centrifuged and filtered the suspension and used the supernatant for study. The effect of supernatant against intestinal pathogenic microorganisms were assessed by Disc diffusion and pour in well method and each test were repeated 3 times and mean inhibition zone were recorded.

Results: Lactobacillus casei and Lactococcus lactis showed better effect than other strains. The maximum light zone diameter was 18 millimeter. Maximum and minimum inhibitory effect has seen in Yersinia enterocolitica and Bacillus cereus.

Conclusion: Both Lactobacillus and Lactococcus strains had a proper inhibitory effect on the intestinal pathogenic bacteria but Lactobacillus strains that present in yoghurt showed better effect. This inhibitory effect was more obvious on the Yersinia enterocolitica.

Key Words:
Antibacterial effect-Probiotic- Yoghurt- Lactobacilli- Lactococcus- Golestan