

EVALUATION OF PROBIOTIC ATTRIBUTES OF LACTOBACILLI SPECIES ISOLATED FROM CURD SAMPLES COLLECTED FROM KANDY, SRI LANKA

M.F.F. Shuhadha¹, G.J. Panagoda², T. Madhujith³ and N.W.I.A. Jayawardana¹

¹*Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura*

²*Department of Oral Medicine and Periodontology, Faculty of Dental Sciences, University of Peradeniya, Peradeniya*

³*Department of Food Science and Technology, Faculty of Agriculture, University of Peradeniya, Peradeniya*

Curd is a potential source of probiotic *Lactobacillus* spp. This study was carried out to isolate and characterize *Lactobacillus* spp. available in curd samples sold in the market. Nine curd samples prepared using cow and buffalo milk were obtained from local market in Kandy District. A total of seven isolates (LB 1-7) were identified, based on their colony morphology and biochemical characteristics and evaluated for their probiotic attributes such as low pH tolerance, resistance to bile salt, antimicrobial activity against *Escherichia coli* and *Pseudomonas aeruginosa*, reaction to Erythromycin, Chloramphenicol and Norfloxacin, haemolytic activity and DNase activity. It was observed that all the isolates were able to grow at low pH (pH=3.0) and survive at 0.3% bile salt, though the viability decreased with time. LB7 showed very low viability to bile salt, compared to others. All the isolates exhibited antimicrobial activity against the two microbes tested. Two isolates (LB1 and LB2) produced the maximum zone of inhibition (18 ± 1.13 mm) against *E. coli* and four isolates (LB1, LB2, LB6 and LB7) against *P. aeruginosa*. LB6 and LB7 exhibited resistance to all three antibiotics tested, while the other isolates were found to be sensitive. In general, a higher sensitivity was observed against Erythromycin and Chloramphenicol, compared to Norfloxacin. Moreover, all the isolates exhibited -haemolysis (non-haemolysis) whereas none of the isolates showed any DNase activity. Further investigations are recommended to identify the *Lactobacilli* strains available in these isolates.

Keywords: Curd, *Lactobacillus*, Probiotic attributes