

## Protective effects of probiotic-fermented milk containing *Lactobacillus plantarum* on diet induced hypercholesterolemia in wistar rats

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In this study, the cholesterol-lowering property of probiotic Dahi prepared by co-culturing selected indigenous strain of *Lactobacillus plantarum* (Lp9) and Dahi culture in buffalo milk was evaluated. The plasma cholesterol increased by only 19% on probiotic Dahi compared to over 70% in buffalo milk and Dahi fed groups. The plasma HDL-cholesterol significantly increased in probiotic Dahi (116%), relative to buffalo milk (57%) or Dahi fed (79%) groups. The content of LDL + VLDL-cholesterol in plasma increased significantly in buffalo milk and Dahi fed rats, while it significantly decreased in probiotic Dahi fed groups. The rise in plasma total cholesterol on probiotic Dahi was due entirely to rise in HDL-cholesterol, while on buffalo milk and Dahi the VLDL + LDL-cholesterol contributed to 65% and 57% respectively to rise in plasma cholesterol concentration. The content of triacylglycerols in plasma was decreased by 72% on probiotic Dahi, while it increased by 97% on buffalo milk and 59% on Dahi. Atherogenic index decreased by 83% on probiotic Dahi, while no significant change was observed in buffalo milk and Dahi. The contents of cholesterol and triacylglycerols in liver and aortic tissue were significantly lower in probiotic Dahi than on buffalo milk and Dahi groups. The results of this study showed probiotic Dahi decreased diet induced hypercholesterolaemia and reduced atherogenic index by increasing HDL, decreasing contents of cholesterol and triacylglycerols in liver and aortic tissues and attenuating the rise in triacylglycerols on hypercholesterolaemic diet.

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