



The Effects of Concentrated Barley [Beta]-Glucan on Blood Lipids in a Population of Hypercholesterolaemic Men and Women

Written By: Keenan, Joseph M., Goulson, Melanie, Shamliyan, Tatyana, Knutson, Nathan, Kolberg, Lore, Curry, Leslie | Source: British Journal of Nutrition June 2007

Abstract

Barley, like oats, is a rich source of the soluble fibre [beta]-glucan, which has been shown to significantly lower LDL-cholesterol (LDL-C). However, barley foods have been less widely studied. Therefore, we evaluated the LDL-C-lowering effect of a concentrated barley [beta]-glucan (BBG) extract as a vehicle to deliver this potential health benefit of barley. In a 10-week blinded controlled study, subjects were randomized to one of four treatment groups or control. Treatment groups included either high molecular weight (HMW) or low molecular weight (LMW) BBG at both 3 and 5 g doses. Treatment was delivered twice per day with meals in the form of two functional food products: a ready-to-eat cereal and a reduced-calorie fruit juice beverage. Levels of total cholesterol, LDL-C, HDL-cholesterol (HDL-C), and TAG were determined at baseline and after 6 weeks of treatment. The study group comprised 155 subjects. All treatments were well tolerated and after 6 weeks of treatment the mean LDL-C levels fell by 15 % in the 5 g HMW group, 13 % in the 5 g LMW group and 9 % in both the 3 g/d groups, versus baseline. Similar results were observed for total cholesterol. HDL-C levels were unchanged by treatment. Concentrated BBG significantly improves LDL-C and total cholesterol among moderately dyslipidaemic subjects. Food products containing concentrated BBG should be considered an effective option for improving blood lipids.