



β -glucan from barley and its lipid-lowering capacity: a meta-analysis of randomized, controlled trials

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Abstract

Background/Objectives

To more precisely quantify the effect of barley β -glucan on blood lipid concentrations in humans and to examine the factors that could affect its efficacy.

Subjects/Methods

Eleven eligible randomized clinical trials published from 1989 to 2008 were identified from nine databases. Weighted mean effect sizes were calculated for net differences in lipid profile using a random effect model (RevMan 4.2).

Results

Overall, barley and β -glucan isolated from barley lowered total and low-density lipoprotein (LDL) cholesterol concentrations by 0.30mmol/l (95% confidence interval (CI): -0.39 to -0.21, $P<0.00001$) and 0.27mmol/l (95% CI: -0.34 to -0.20, $P<0.00001$), respectively, compared with control. The pattern of cholesterol-lowering action of barley in this analysis could not be viewed as a dose-dependent response. There were no significant subgroup differences by type of intervention and food matrix.

Conclusions

Increased consumption of barley products should be considered as a dietary approach to reduce LDL cholesterol concentrations.