



## **$\beta$ -glucan from barley and its lipid-lowering capacity: a meta-analysis of randomized, controlled trials**

Written By: S.S. AbuMweis, Department of Clinical Nutrition and Dietetics, Faculty of Allied Health Sciences, The Hashemite University, Zarqa, Jordan; S. Jew, Cereal Research Centre, Agriculture and Agri-Food Canada, Winnipeg, Manitoba, Canada; N.P. Ames, Cereal Research Centre, Agriculture and Agri-Food Canada, Winnipeg, Manitoba, Canada

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### **Abstract**

#### ***Background/Objectives***

To more precisely quantify the effect of barley  $\beta$ -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  $\beta$ -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.