Cholesterol-lowering effects of oat beta-glucan: a meta-analysis of randomized controlled trials.


Open Access Article: http://ajcn.nutrition.org/content/100/6/1413.abstract

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Summary:

Health claims regarding the cholesterol-lowering effect of soluble fiber from oat products, approved by Food Standards agencies worldwide, are based on a diet containing ≥3 g/day of oat β-glucan. Meta-analyses that were conducted previously included studies with intakes of oat soluble fiber <3 g/day. Therefore, an updated meta-analysis was conducted that included ten studies, each with ~1200 subjects and published since 2005, which more than doubled the amount of data. Because β-glucan of high molecular weight appears to be necessary to achieve significant cholesterol reduction, studies using low molecular weight extracts used in previous meta-analyses were not included in this meta-analysis.

The study shows that consuming oats or oat-containing food products containing at least 3 g oat β-glucan/day, when the β-glucan has a molecular weight greater than or equal to 100 kDa, reduces serum cholesterol in adults. A dose of 3 g/day can be achieved by eating reasonable quantities of foods made with oats and oat bran. This meta-analysis is the first to show that consuming oat β-glucan as recommended by Food Standards agencies significantly lowers LDL- and total cholesterol.