

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

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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.