

PubMed **Format:** AbstractJ Am Coll Nutr. 2008 Feb;27(1):65-74.

## Flaxseed and cardiovascular risk factors: results from a double blind, randomized, controlled clinical trial.

Bloedon LT<sup>1</sup>, Balikai S, Chittams J, Cunnane SC, Berlin JA, Rader DJ, Szapary PO.

### Author information

### Abstract

**OBJECTIVE:** Flaxseed is a rich source of alpha linolenic acid (ALA), fiber and lignans, making it a potentially attractive functional food for modulating cardiovascular risk. We studied the effects of flaxseed on markers of cardiovascular risk in hypercholesterolemic adults.

**METHODS:** Sixty-two men and post-menopausal women with pre-study low density lipoprotein cholesterol (LDL-C) between 130 and 200 mg/dl were randomized to 40g/day of ground flaxseed-containing baked products or matching wheat bran products for 10 weeks while following a low fat, low cholesterol diet. Fasting lipoproteins, measures of insulin resistance, inflammation, oxidative stress, and safety were assessed at 0, 5 and 10 weeks.

**RESULTS:** Flaxseed was well-tolerated, and increased serum levels of ALA ( $p < 0.001$ ). Compared to wheat, flaxseed significantly reduced LDL-C at 5 weeks (-13%,  $p < 0.005$ ), but not at 10 weeks (-7%,  $p = 0.07$ ). Flaxseed reduced lipoprotein a (Lp[a]) by a net of 14% ( $p = 0.02$ ), and reduced the homeostatic model assessment of insulin resistance (HOMA-IR) index by 23.7% ( $p = 0.03$ ) compared to wheat at 10 weeks, but did not affect markers of inflammation (IL-6, Hs-CRP) or oxidative stress (ox LDL, urinary isoprostanes) at any time points. In men, flaxseed reduced HDL-C concentrations by a net of 16% ( $p = 0.03$ ) and 9% ( $p = 0.05$ ) at 5 and 10 weeks, respectively.

**CONCLUSIONS:** Ground flaxseed has a modest but short lived LDL-C lowering effect, yet reduces Lp(a) and improves insulin sensitivity in hyperlipidemic adults. The HDL-C lowering effect of flaxseed in men warrants additional study.

PMID: 18460483

[Indexed for MEDLINE]

---

**Publication types, MeSH terms, Substances, Grant support** 

---

**LinkOut - more resources**