

Effect of two types of soy milk and dairy milk on plasma lipids in hypercholesterolemic adults: A randomized trial

Christopher D. Gardner, PhD; Mark Messina, PhD; Alexandre Kiazand, MD; Jennifer L. Morris, PhD; Adrian A. Franke, PhD

Objective - To compare the effects of two commercially available soy milks (one made using whole soy beans, the other using soy protein isolate) with low-fat dairy milk on plasma lipid, insulin, and glucose responses.

Design - Randomized clinical trial, cross-over design.

Subjects - Participants were 30-65 years of age, n=28, with pre-study LDL-cholesterol (LDL-C) concentrations of 160-220 mg/dL, not on lipid lowering medications, and with an overall Framingham risk score of $\leq 10\%$.

Intervention - Participants were required to consume sufficient milk to provide 25 g protein/d from each source. The protocol included three 4-week treatment phases, each separated from the next by a wash-out period of ≥ 4 weeks.

Results - Mean LDL-C concentration at the end of each phase (\pm SD) was 161 ± 20 , 161 ± 26 and 170 ± 24 mg/dL for the whole bean soy milk, the soy protein isolate milk, and the dairy milk, respectively (p=0.9 between soy milks, p=0.02 for each soy milk vs. dairy milk). No significant differences by type of milk were observed for HDL-cholesterol, triacylglycerols, insulin, or glucose.

Conclusion - A 25 g dose of daily soy protein from soy milk led to a modest 5% lowering of LDL-C relative to dairy milk among adults with elevated LDL-C. The effect did not differ by type of soy milk and neither soy milk significantly affected other lipid variables, insulin or glucose.

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