

## EFFECTS OF WALNUTS ON THE SERUM LIPID PROFILE OF HYPER-CHOLESTEROLEMIC SUBJECTS: THE BARCELONA WALNUT TRIAL.

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Cardiovascular health benefits are associated with the consumption of walnuts. One reason could be the favorable effect on plasma lipids, as shown in normolipidemic subjects (N Engl J Med 1993;328:603-7). We assessed the effect of walnuts on serum lipids in hyperlipidemic subjects. In a randomized, cross-over study, 49 subjects (23 women, 26 men; mean age 56 yrs, range 34-68) with primary hypercholesterolemia [mean values in mg/d: total cholesterol (TC) 278, low-density lipoprotein cholesterol (LDL-C) 193, high-density lipoprotein cholesterol (HDL-C) 56, triglycerides (TG) 141] received two isocaloric diets, containing identical macronutrients, but differing in fatty acid (FA) content: a monounsaturated FA (MUFA) diet, olive oil-rich (MO), and a polyunsaturated FA (PUFA) diet, containing ~50 g walnuts/day (PW). Respective fat composition values (percent of daily energy) were: total fat 30 vs 33, saturated FA 5 vs 5, MUFA 21 vs 16, and PUFA 4 vs 12. The main changes in the PW diet with respect to the MO diet were a 150% increase in 18:2n-6 and a 300% increase in 18:3n-3. After 6 wks on each diet, blood was obtained for serum lipoprotein analysis. TC, LDL-C, and apolipoprotein B levels decreased 10% each ( $p < 0.001$ ) after the PW diet in comparison with the MO diet. The effects were similar in men and women. In conclusion, walnut consumption favorably modifies the plasma lipid profile in hypercholesterolemic subjects.

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