Statins and almonds to lower lipoproteins (the STALL Study).

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Abstract:
BACKGROUND: Dietary supplementation with almonds has demonstrated dose-dependent decreases in low-density lipoprotein cholesterol (LDL-C), likely because of their composition of beneficial nutrients including mono- and polyunsaturated fatty acids, fiber, and protein. OBJECTIVE: The primary objective of this study was to determine the changes in the lipid profile (LDL-C, high-density lipoprotein cholesterol [HDL-C], triglycerides, total cholesterol, non–HDL-C), LDL-C particle size, and lipoprotein (a) when 100 g of almonds daily were added to background statin therapy for 4 weeks. METHODS: Subjects (N548) receiving a consistent statin dose were randomized to 100 g of almonds daily and to The National Cholesterol Education Program Adult Treatment Panel's third report Therapeutic Lifestyle Changes Diet counseling (almond group; n522) or solely Adult Treatment Panel's third report Therapeutic Lifestyle Changes Diet counseling (non-almond group; n 5 26), for 4 weeks. RESULTS: No significant changes in weight and weekly physical activity were noted between the 2 groups from baseline. However, the almond group consumed significantly more calories at 4 weeks compared with controls. The almond group experienced a 4.9% reduction in non–HDL-C compared with a 3.5% increase for the non-almond group (P 5 .02). Additionally, notable improvements were observed in LDL-C and triglycerides, but did not achieve statistical significance (P 5.068 for both parameters). There was also a shift from LDL pattern A to pattern B particles (P 5.003) in the almond group. No significant differences in total cholesterol (P 5 .1), HDL-C (P 5 .3), or lipoprotein (a) (P 5.1) were observed. CONCLUSION: Adding 100 g of almonds daily to chronic statin therapy for 4 weeks significantly reduced non–HDL-C.