The effect of almonds on vitamin E status and cardiovascular risk factors in Korean adults: a randomized clinical trial.

Jung, H 2018
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Abstract:
Total caloric intake was increased by the almonds, but body weight, waist circumference, and body composition were not affected. Almonds in overweight and obese Korean Purpose Almonds have shown to benefcially modify some cardiovascular risk factors in clinical trials conducted in diverse ethnic populations but this relationship has never been tested in Koreans. Thus, we tested the impact of almonds consumed as a snack within the context of a typical Korean diet on cardiovascular risk factors. Methods We conducted a randomized, crossover trial in a free-living setting with a 2-week run-in period, two 4-week intervention phases, and a 2-week washout period between interventions. Eighty four overweight/obese participants (11 M/73 F; 52.4 ± 0.6 year; 25.4 ± 0.22 kg/m2) consumed either 56 g of almonds or isocaloric cookies daily for 4 weeks. Results Mean % daily energy intake at baseline was 64.8, 21.3, and 14.9% from carbohydrate, fat, and protein, respectively. The addition of 56 g of almonds daily decreased carbohydrate energy to 55.0%, increased fat to 32.0%, and maintained protein at 14.7%. Consuming the almonds increased intake of MUFA by 192.3%, PUFA by 84.5%, vitamin E by 102.7%, and dietary fber by 11.8% and decreased % energy from carbohydrate by 14.1%. adults decreased TC, LDL-C, and non-HDL-C by 5.5, 4.6, and 6.4%, respectively, compared to the cookie control (P ≤ 0.05). Almonds increased plasma α-tocopherol by 8.5% (P ≤ 0.05) from the baseline and tended to increase its value as compared to cookies (P = 0.055). Neither the almonds nor cookies altered plasma protein carbonyls, MDA or oxLDL. Of serum infammatory markers, IL-10 was decreased by almond intake (P ≤ 0.05), and ICAM- 1, IL-1β, and IL-6 tended to be lower with almonds, compared to the cookies. Conclusions Almonds at 56 g/day consumed as a snack favorably modifed the Korean diet by increasing MUFA, PUFA, vitamin E, and dietary fber intake and decreasing % energy intake from carbohydrate. Almonds also enhanced plasma α-tocopherol status and serum TC and LDL-C in overweight