Supplementary Materials

Supplemental Table S1. Nutritional composition of almonds and control snacks per 400 kcal isocaloric portions. Values given as 20% of the estimated average requirement for energy (2000 kcal) for adult women.

		Average of sweet and savory	Control snacks	
Nutrient	Almonds	control snacks	Sweet	Savory
Energy, kcal	400	400	400	400
Protein, %E	13.4	9.8	9.8	9.8
Carbohydrate, %E	13.2	54.1	54.3	53.8
Starch, %E	-	38.7	24.5	52.9
Sugars, %E	2.3	15.1	29.7	0.4
Fibre, g	9.3	2.1	1.3	2.8
Fat, %E	73.6	36.5	35.8	37.1
SFA, g	5.6	12.8	12.6	12.8
MUFA, g	47.9	16.0	15.8	16.0
PUFA, g	16.0	5.6	5.4	5.9
Sodium, mg	<2.5	452.1	187.4	716.8
Potassium, mg	463.7	162.8	145.9	179.6
Calcium, mg	164.7	130.1	46.1	214.1
Magnesium, mg	181.7	19.0	15.4	22.6
Vitamin E, mg	14.3	1.3	1.1	1.4

Supplemental Figure S1. CONSORT Flow Diagram **Enrolment** Assessed for eligibility (n=294) Excluded (n=187) Not meeting inclusion criteria (n=157) Declined to participate (n=10) Other reasons (n=20) Assessed for eligibility after run-in (n=109) Excluded (n=2) Not meeting inclusion criteria (noncompliance with the study protocols) (n=1)Declined to participate (time commitment issue) (n=1) Randomized (n=107) Allocation Allocated to control group (n=51) Allocated to almond group (n=56) Received allocated intervention (n=51) Received allocated intervention (n=56) Did not receive allocated intervention (n=0) Did not receive allocated intervention (n=0) Follow-Up Lost to follow-up (n=0) Lost to follow-up (n=0) Discontinued intervention (gastrointestinal Discontinued intervention (n=0) intolerance of almonds) (n=2) Analysis Analyzed (nmax=54) Analyzed (n_{max}=51) Included during analysis: Included during analysis: Nutrient intakes: n=40 Nutrient intakes: n=40 (missing data are due to poor quality diet diaries or (missing data are due to poor quality diet diaries or failure to complete by participants) failure to complete by participants) Blood pressure and heart rate variability Blood pressure and heart rate variability (missing data are due to poor quality read-outs and (missing data are due to poor quality read-outs and technological issue) technological problems) Clinical blood pressure: n=54 Clinical blood pressure: n=51 Resting NN, HR, SDNN, rMSSD and SD1/SD2: Resting NN, HR, SDNN, rMSSD and SD1/SD2: n=40Resting HF, HFnu, and LF:HF: n=40 Resting HF, HFnu, and LF:HF: n=35 Stroop test NN and HR: n=44 Stroop test NN and HR: n=35 Stroop test SDNN, rMSSD and SD1/SD2: n=40 Stroop test SDNN, rMSSD and SD1/SD2: n=36 Stroop test HF, HFnu and LF:HF: n=35 Stroop test HF, HFnu and LF:HF: n=28 Body composition Body composition BMI: n=50, WC: n=51, Body fat: n=52 BMI: n=45, WC: n=49, Body fat: n=49 Circulating biomarkers Circulating biomarkers HOMA-IR and glucose: n=53 HOMA-IR and glucose: n=48

Blood lipids: n=49

Blood lipids: n=53

Supplemental Table S2. Body composition, clinical blood pressure and circulating biomarkers of cardiometabolic risk following randomization to almond and control snacks.

	Contr	Control, $n_{\text{max}} = 51^{1}$		nds, $n_{max} = 54^{1}$	Main comparison between
	Baseline ²	Change	Baseline ²	Change	groups ³
BMI, kg/m ²	27.1 ± 4.4	-0.2 (-0.4, 0.0)	27.2 ± 4.5	0.1 (-0.1, 0.3)	0.2 (-0.1, 0.5)
WC, cm	93.3 ± 11.7	0.1 (-0.9, 1.2)	94.1 ± 12.2	-0.6 (-1.6, 0.5)	-0.7 (-2.2, 0.8)
Body fat, %	31.1 ± 7.7	-0.5 (-1.1, 0.0)	32.2 ± 7.7	0.3 (-0.3, 0.8)	0.8 (-0.0, 1.6)
cSBP, mmHg	127.8 ± 12.9	-5.2 (-7.9, -2.6)	127.3 ± 19.3	-6.3 (-8.9, -3.7)	-1.0 (-4.7, 2.6)
cDBP, mmHg	84.6 ± 7.9	-3.2 (-5.1, -1.3)	85.5 ± 10.6	-3.5 (-5.3, -1.6)	0.2 (-2.9, 2.4)
TC, mmol/L	5.26 ± 1.13	0.03 (-0.15, 0.20)	5.40 ± 0.93	-0.18 (-0.35, -0.02)	-0.21 (-0.45, 0.03)
TAG, mmol/L	1.17 (0.69)	-0.11 (-0.20, 0.01)	1.07 (0.73)	-0.08 (-0.17, 0.02)	0.03 (-0.11, 0.16)
Non-HDL, mmol/L	3.92 ± 1.16	0.11 (-0.04, 0.26)	4.00 ± 0.98	-0.11 (-0.25, 0.03	-0.22 (-0.42, -0.01)4
LDL, mmol/L	3.63 ± 1.16	0.15 (0.01, 0.30)	3.74 ± 0.91	-0.09 (-0.23, 0.05)	-0.25 (-0.45, -0.04)4
HDL, mmol/L	1.61 ± 0.45	0.04 (-0.04, 0.11)	1.66 ± 0.51	-0.04 (-0.11, -0.03)	-0.08 (-0.18, 0.03)
TC:HDL	3.45 ± 0.91	-0.04 (-0.15, 0.07)	3.47 ± 1.01	-0.03 (-0.14, 0.07)	0.00 (-0.15, 0.16)

Values of change and main comparison of the changes between groups are presented as mean (95% CI) generated from estimated marginal means from ANCOVA.

BMI: n = 45 (control) and 50 (almond).

WC: n = 49 (control) and 51 (almond).

Body fat: n = 49 (control) and 52 (almond).

TC, TAG, Non-HDL, LDL, HDL and TC:HDL: n = 49 (control) and 53 (almond).

²Median (IQR) for TAG data as they are non-normally distributed. Mean ± SD for other data that are normally distributed. Baseline biomarker values were not different between the two groups.

 3 ANCOVA, adjusted for baseline outcome value and baseline BMI (mean difference in change from baseline, almonds minus control); P < 0.05 indicating a significant difference for values of mean difference between two groups.

BMI, body mass index; WC, waist circumference; cSBP, clinical systolic blood pressure; cDBP, clinical diastolic blood pressure; TC, total cholesterol; TAG, triglycerides; LDL, low-density lipoprotein cholesterol; HDL, high-density lipoprotein cholesterol.

¹Not all data were analysed due to technical problems and sample loss.