Supplemental Tables

Supplemental Table 1. Nutritional composition of the 5 predetermined experimental diets[1]

	CHO (*n*=46)	**CHEESE** (*n*=46)	**BUTTER** (*n*=44)	**MUFAs** (*n*=43)	**PUFAs** (*n*=43)
Energy[2], kcal	2688 ± 582	2706 ± 592	2680 ± 582	2657 ± 581	2685 ± 597
Cheese, g/2500 kcal	0	90.0	0	0	0
Butter, g/2500 kcal	0	0	48.9	0	0
Lipids[3], % of total E	25.0	32.0	32.0	32.0	32.0
SFAs (total)	**5.8**	**12.6**	**12.4**	**5.8**	**5.8**
SFA 4:0	0.01	0.35	0.57	0.01	0.01
SFA 6:0	0.00	0.17	0.35	0.00	0.00
SFA 8:0	0.02	0.11	0.23	0.02	0.02
SFA 10:0	0.03	0.22	0.46	0.02	0.02
SFA 12:0	0.14	0.31	0.58	0.13	0.13
SFA 14:0	0.16	1.27	1.40	0.11	0.12
SFA 16:0	3.79	6.83	6.13	4.14	4.09
SFA 17:0	0.01	0.01	0.11	0.01	0.02
SFA 18:0	1.49	2.95	2.57	1.17	1.21
SFA 20:0	0.08	0.06	0.12	0.12	0.12
SFA 22:0	0.07	0.08	0.12	0.08	0.06
MUFAs (total)	**12.6**	**12.5**	**12.3**	**19.6**	**12.6**
MUFA 14:1	0.00	0.00	0.00	0.00	0.00
MUFA 16:1	0.38	0.68	0.37	0.44	0.27
MUFA 18:1	12.25	11.58	12.01	19.28	12.36
MUFA 20:1	0.14	0.16	0.13	0.14	0.11
MUFA 22:1	0.03	0.03	0.03	0.03	0.03
PUFAs (total)	**4.8**	**4.8**	**4.8**	**4.8**	**11.5**
PUFA 18:2	4.36	4.30	4.38	4.33	11.08
PUFA 18:3	0.38	0.47	0.36	0.43	0.49
PUFA 18:4	0.00	0.00	0.00	0.00	0.00
PUFA 20:4	0.06	0.04	0.05	0.07	0.07
PUFA 20:5	0.02	0.02	0.02	0.02	0.02
PUFA 22:5	0.01	0.01	0.02	0.02	0.02
PUFA 22:6	0.05	0.04	0.04	0.05	0.05
CHOs, % of total E	58.9	51.9	52.0	51.9	51.9
Proteins, % of total E	16.0	16.0	16.0	16.0	16.0
Calcium, mg/2500 kcal	841.6	1261.0	811.1	812.2	811.7
Total fibers, g/2500 kcal	30.5	30.7	30.6	30.6	30.6
Cholesterol, mg/2500 kcal	272.4	272.1	272.4	271.5	272.2
Sodium, mg/2500 kcal	2485	2482	2480	2479	2479

[1] Values are means unless otherwise indicated. E indicates energy; MUFAs, monounsaturated fatty acids; PUFAs, polyunsaturated fatty acids; CHO, carbohydrates; SFAs, saturated fatty acids

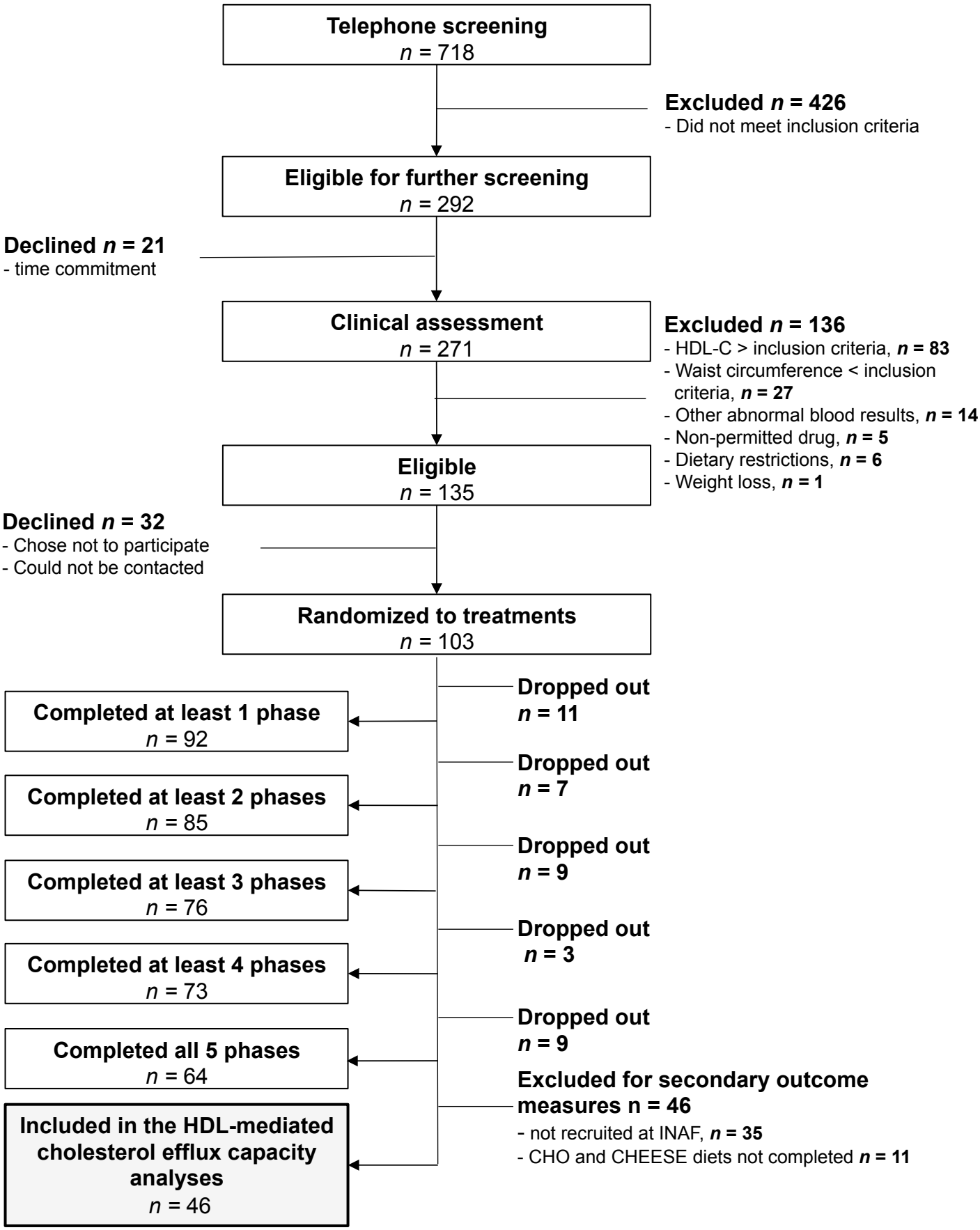
[2] Values are means ± SDs of energy intake by participants during each phase. *P* value = 0.48 for the comparison between treatments, as determined by mixed models.

[3] The energy percentage provided by fatty acids shown may not sum up to the total fat content due to presence of other fatty acids not measured. The grams of fat from cheese in the cheese diet were replaced by corresponding amounts of butter fat, refined olive oil, and corn oil in the BUTTER, MUFAs, and PUFAs diets, respectively.

Supplemental Table 2. Change in endpoint HDL lipids and proteins (% of total) after the four high-fat diet compared with the CHO reference diet in men and women with abdominal obesity [1]

HDL composition	CHO (*n*=46)	Δ vs. CHO				*P*
		CHEESE (*n*=46)	BUTTER (*n*=44)	MUFAs (*n*=43)	PUFAs (*n*=43)	
Triglycerides[2], %	2.6 ± 0.8	0.0 ± 0.6	-0.1 ± 0.5 [a]	-0.1 ± 0.6	-0.2 ± 0.5 [a]	0.24
Free cholesterol, %	3.2 ± 0.4	0.1 ± 0.3	0.1 ± 0.4	0.1 ± 0.3	0.1 ± 0.3	0.67
Cholesteryl esters, %	16.8 ± 2.6	0.3 ± 1.3	0.2 ± 1.6	0.5 ± 1.6	0.7 ± 1.8 [a]	0.14
Phospholipids, %	25.2 ± 4.0	0.3 ± 3.2	-0.3 ± 3.4	-0.5 ± 4.2	-0.7 ± 4.0	0.32
Proteins, %	52.2 ± 5.2	-0.6 ± 2.8	0.2 ± 3.5	0.0 ± 3.7	-0.2 ± 4.2	0.53

[1] Values are expressed as means ± SDs. *P* values were for the main treatment effects in mixed models, comparing the effects of the four high-fat diets among themselves. As indicated in the methods section, values after the CHO diet were used as reference in the analyses. Pairwise comparisons of the high fat diets were examined only when the *P* value of the main treatment effect was <0.05. Covariates (sex, age, BMI, sequence or waist circumference) were included in the mixed models only when they were shown to be significant at *P*<0.05. The MUFAs and PUFAs diets were not compared specifically because they were not part of the primary objectives of the study. CHO indicates carbohydrates; HDL, high-density lipoproteins; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids; Δ, delta.
[2] Analysis was performed on log-transformed data.
[a] Significantly different from CHO, *P*<0.05; obtained from the least squares means (LSMEANS) statement in the mixed models.



Supplemental Figure 1 Flow chart diagram. Out of 135 eligible subjects, 103 were randomized. Dropout rate is 37.9% (39 of the 103 subjects randomized). Reasons for dropping-out were the following: job, study, family or travel constraints (*n*=12), lost to follow-up (*n*=6), loss of interest (*n*=5), protocol too demanding (*n*=5), diet issues (didn't like food) (*n*=5), health problem unrelated to study protocol (*n*=3), pregnancies (*n*=2), and medical constraint (*n*=1). A total of 92 subjects completed at least one phase while 64 have completed all five phases. Among subjects recruited at INAF, 42 subjects completed all five phases and 4 subjects completed at least the CHO and CHEESE diets; these subjects were included in this study. CHO indicates carbohydrates; HDL, high-density lipoprotein; INAF, Institute of Nutrition and Functional Foods.