

**Supplementary Table S1.** Chemical composition of extra virgin olive oil used in the study [1].

Fatty Acids (%)	EVOO
C16:0	10.4
C18:0	2.76
C18:1 n-9	71.0
C18:2 n-6	12.9
C18:3 n-3	1.04
Sterols (mg/100g oil)	319
Schottenol	0
Spinasterol	0
Stigmasta-8,22-dien-3 $\beta$ -ol	0
$\beta$ -Sitostérol	156
Campesterol	12
Others	151
Tocopherols (mg/Kg oil)	257
$\alpha$	190
$\delta$	42
$\gamma$	26
Phenolic Compounds ( $\mu$ g/Kg oil)	792 983
Vanillic acid	359
Syringic acid	0
Ferulic acid	51
Tyrosol	19 573
Others	773 000

**Supplementary Table S2.** Anthropometric and biochemical characteristics of the participants at baseline.

	Total (n = 84)	Young (n = 27)	Elderly (n = 57)	
Age (years)	58.21 $\pm$ 19.22	31.81 $\pm$ 6.79	70.72 $\pm$ 5.6	<0.001
Male	35	15	20	
Female	49	12	37	
BMI	25.83 $\pm$ 4.24	24.37 $\pm$ 3.16	26.51 $\pm$ 4.53	0.033
Systolique pressure	127.32 $\pm$ 18.48	113.56 $\pm$ 8.43	133.72 $\pm$ 18.42	<0.001
Diastolique pressure	77.37 $\pm$ 9.55	70.52 $\pm$ 7.84	80.54 $\pm$ 8.6	<0.001
Total cholesterol (mmol/l)	5.23 $\pm$ 0.99	4.63 $\pm$ 0.95	5.52 $\pm$ 0.88	<0.001
Triglycerides (mmol/l)	1.31 $\pm$ 0.83	1.19 $\pm$ 0.99	1.37 $\pm$ 0.74	0.032
HDL-C (mmol/l)	1.46 $\pm$ 0.38	1.38 $\pm$ 0.33	1.5 $\pm$ 0.4	0.289
LDL-C (mmol/l)	3.16 $\pm$ 0.83	2.7 $\pm$ 0.76	3.4 $\pm$ 0.78	<0.001
CT/HDL-C	3.81 $\pm$ 1.25	3.62 $\pm$ 1.4	3.92 $\pm$ 1.16	0.113
Glucose (mmol/l)	4.56 $\pm$ 0.57	4.18 $\pm$ 0.46	4.73 $\pm$ 0.56	<0.001

Results are presented as MEAN SD, *p*: comparison between young and elderly Mann-Whitney test,  $\alpha$  = 0.05.

## References

1. Helal, O.; Berrougui, H.; Loued, S.; Khalil, A. Extra-virgin olive oil consumption improves the capacity of HDL to mediate cholesterol efflux and increases ABCA1 and ABCG1 expression in human macrophages. *Br. J. Nutr.* **2013**, *109*, 1844–1855.