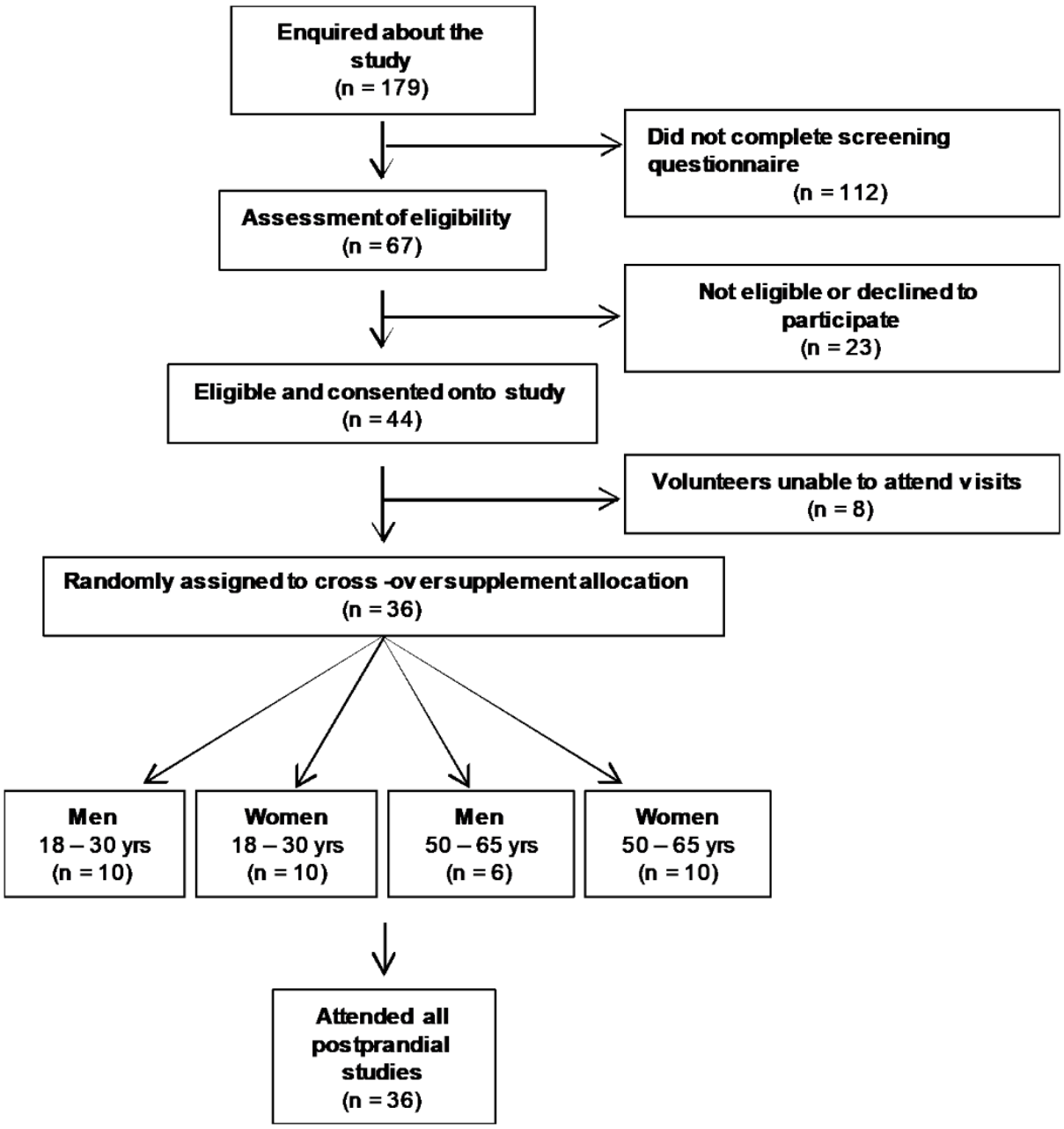
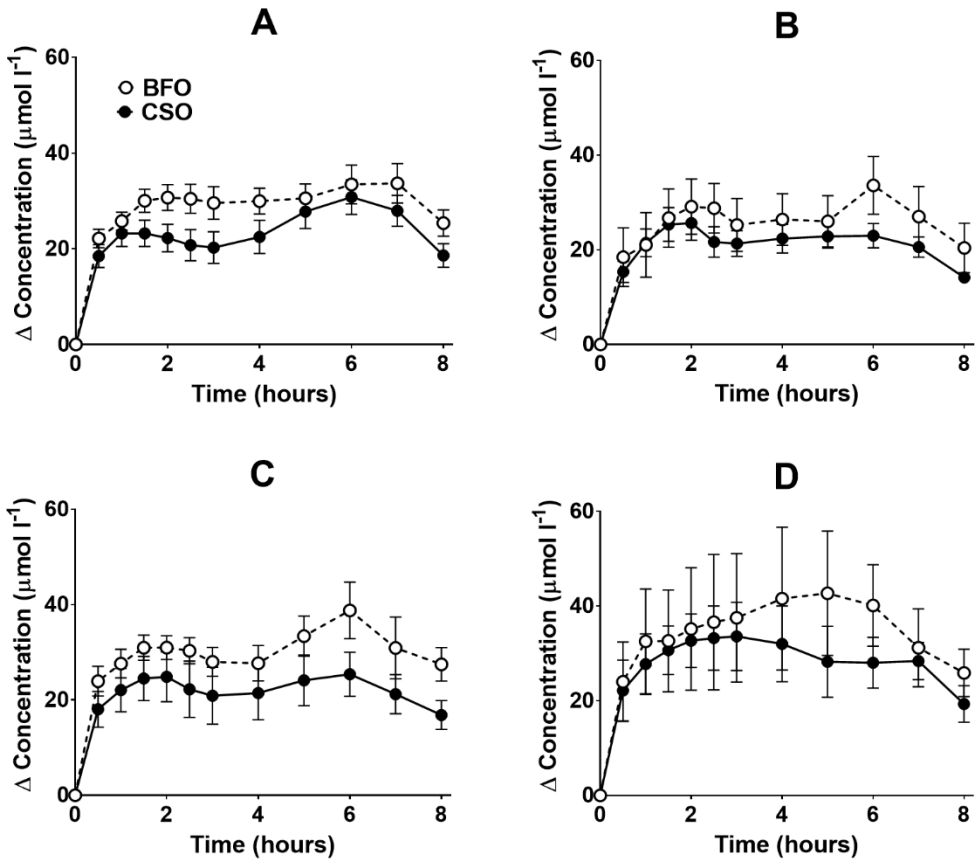
Supplementary material

West *et al*. Postprandial incorporation of EPA and DHA from transgenic *Camelina sativa* oil into blood lipids is equivalent to that from fish oil in healthy humans

Supplementary Figure 1. Consort diagram



Supplementary Figure 2. Postprandial incorporation of EPA plus DHA into plasma triacylglycerol.



Values are mean (SEM) changes in concentration from baseline of EPA+ DHA in plasma triacylglycerol following consumption of test meals containing either CSO (solid symbols and lines) or BFO (open symbols and dashed lines). A, younger females (*n* 10); B, younger males (*n* 10); C, older females (*n* 10); D older males (*n* 6). The results of statistical analysis by ANOVA with Bonferroni's *post hoc* correction are described in Supplementary Table 1.

Supplementary Table 1. Results of statistical analysis of postprandial EPA and DHA concentrations in plasma triacylglycerol

	EPA		DHA		EPA+DHA	
	F(df)	P	F(df)	P	F(df)	P
Time	18.7 (4, 257)	< 0.0001	18.6 (4, 276)	< 0.0001	18.7 (4, 264)	<0.0001
Time*oil	0.7 (4, 257)	0.6	0.9 (4, 276)	0.5	1.5 (4, 264)	0.2
Time*age	2.3 (4, 257)	0.06	1.3 (4, 276)	0.3	0.9 (4, 264)	0.4
Time*sex	0.8 (4, 257)	0.5	3.1 (4, 276)	0.1	2.7 (4, 264)	0.03
Time*oil*sex	0.7 (4, 257)	0.6	0.3 (4, 276)	0.9	1.2 (4, 264)	0.3
Time*oil*age	0.7 (4, 257)	0.6	1.0 (4, 276)	0.4	0.8 (4, 264)	0.5
Time*age*sex	0.9 (4, 257)	0.6	0.3 (4, 276)	0.9	1.1 (4, 264)	0.3
Time*oil*age*sex	1.8 (4, 257)	0.1	1.0 (4, 276)	0.4	0.6 (4, 264)	0.7

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors and time as a repeated measure. Bonferroni's correction was applied *post hoc*.

Supplementary Table 2. Results of statistical analysis of postprandial EPA and DHA incremental area under the time*concentration curve in plasma triacylglycerol

	EPA		DHA		EPA+DHA	
	F(df)	P	F(df)	P	F(df)	P
Type of oil	1.6 (1,64)	0.2	0.2 (1, 64)	0.7	0.7 (1,64)	0.5
Age	13.5 (1,64)	< 0.0001	5.1 (1, 64)	0.03	8.5 (1,64)	0.004
Sex	0.8 (1,64)	0.3	2.6 (1, 64)	0.1	0.5 (1,64)	0.5
Type of oil*sex	0.1 (1,64)	0.7	0.5 (1, 64)	0.5	0.1 (1,64)	0.8
Type of oil*age	0.1 (1,64)	0.8	0.3 (1, 64)	0.9	0.9 (1,64)	0.3
Age*sex	0.3 (1,64)	0.6	0.2 (1, 64)	0.6	1.7 (1,64)	0.2
Type of oil*age*sex	0.3 (1,64)	0.6	0.0 (1, 64)	0.9	0.3 (1,64)	0.6

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors. Bonferroni's correction was applied *post hoc*.

Supplementary Table 3. Results of statistical analysis of postprandial EPA and DHA concentrations in plasma phosphatidylcholine

	EPA		DHA	
	F(df)	P	F(df)	P
Time	9.3 (5, 344)	< 0.0001	10.7 (4, 264)	< 0.0001
Time*oil	1.1 (5, 344)	0.4	1.1 (4, 264)	0.4
Time*age	0.7 (5, 344)	0.03	0.5 (4, 264)	0.7
Time*sex	2.0 (5, 344)	0.07	1.4 (4, 264)	0.2
Time*oil*sex	0.7 (5, 344)	0.4	1.2 (4, 264)	0.3
Time*oil*age	1.0 (5, 344)	0.6	0.6 (4, 264)	0.7
Time*age*sex	1.1 (5, 344)	0.4	0.6 (4, 264)	0.7
Time*oil*age*sex	1.0 (5, 344)	0.4	1.0 (4, 264)	0.4

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors. Bonferroni's correction was applied *post hoc*.

Supplemental Table 4. Results of statistical analysis of postprandial EPA and DHA incremental area under the time*concentration curve in plasma phosphatidylcholine

	EPA		DHA		EPA+DHA	
	F(df)	P	F(df)	P	F(df)	P
Type of oil	0.1 (1,64)	0.8	0.8 (1,64)	0.4	0.7 (1,64)	0.4
Age	7.3 (1,64)	0.001	8.5 (1,64)	0.01	7.2 (1,64)	0.02
Sex	0.1 (1,64)	0.8	1.3 (1,64)	0.3	0.9 (1,64)	0.3
Type of oil*sex	0.1(1,64)	0.8	0.1 (1,64)	0.8	0.4 (1,64)	0.5
Type of oil*age	0.2 (1,64)	0.9	1.8 (1,64)	0.2	0.8 (1,64)	0.1
Age*sex	0.5 (1,64)	0.5	2.4 (1,64)	0.1	1.3 (1,64)	0.3
Type of oil*age*sex	0.1 (1,64)	0.8	0.4 (1,64)	0.5	0.5 (1,64)	0.7

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors. Bonferroni's correction was applied *post hoc*.

Supplementary Table 5. Results of statistical analysis of postprandial EPA and DHA concentrations in plasma non-esterified fatty acids

	EPA		DHA	
	F(df)	P	F(df)	P
Time	6.0 (6,350)	< 0.0001	67.2 (5,322)	< 0.0001
Time*oil	0.6 (6,350)	0.7	0.4 (5,322)	0.8
Time*age	1.1 (6,350)	0.4	1.2 (5,322)	0.3
Time*sex	1.8 (6,350)	0.1	2.7 (5,322)	0.2
Time*oil*sex	1.0 (6,350)	0.4	0.9 (5,322)	0.5
Time*oil*age	1.1 (6,350)	0.3	1.4 (5,322)	0.2
Time*age*sex	1.1 (6,350)	0.3	1.6 (5,322)	0.2
Time*oil*age*sex	1.1 (6,350)	0.4	0.6 (5,322)	0.7

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors. Bonferroni's correction was applied *post hoc*.

Supplementary Table 6. Results of statistical analysis of postprandial EPA and DHA incremental area under the time*concentration curve in plasma non-esterified fatty acids

	EPA		DHA			
	F(df)	P	F(df)	P	F(df)	P
Type of oil	3.9 (1,64)	0.6	2.3 (1,64)	0.1	0.2 (1,64)	0.6
Age	0.3 (1,64)	0.6	1.9 (1,64)	0.2	9.7 (1,64)	0.003
Sex	0.5 (1,64)	0.5	1.3 (1,64)	0.3	0.5 (1,64)	0.5
Type of oil*sex	9.8(1,64)	0.1	3.6 (1,64)	0.1	0.1 (1,64)	0.8
Type of oil*age	2.0 (1,64)	0.2	3.2 (1,64)	0.1	0.9 (1,64)	0.3
Age*sex	0.3 (1,64)	0.9	0.5 (1,64)	0.5	1.7 (1,64)	0.2
Type of oil*age*sex	4.5 (1,64)	0.1	1.9 (1,64)	0.2	0.3 (1,64)	0.6

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors. Bonferroni's correction was applied *post hoc*.

Supplementary Table 7. Results of statistical analysis of postprandial lipoprotein concentrations and diameters

	VLDL-CM		LDL		HDL	
	F(df)	P	F(df)	P	F(df)	P
			Concentration			
Time	23.8 (2,104)	< 0.0001	62.8 (2,116)	< 0.0001	219.3 (2,93)	< 0.0001
Time*oil	0.5 (2,104)	0.6	1.4 (2,116)	0.3	0.4 (2,93)	0.6
Time*age	4.3 (2,104)	0.02	2.1 (2,116)	0.1	0.3 (2,93)	0.7
Time*sex	1.0 (2,104)	0.4	1.4 (2,116)	0.3	2.5 (2,93)	0.1
Time*oil*sex	0.01 (2,104)	0.9	0.4 (2,116)	0.7	0.3 (2,93)	0.7
Time*oil*age	0.1.8 (2,104)	0.2	0.5 (2,116)	0.6	0.6 (2,93)	0.5
Time*age*sex	5.8 (2,104)	< 0.01	0.03 (2,116)	0.9	0.4 (2,93)	0.3
Time*oil*age*sex	0.1 (2,104)	0.9	0.03 (2,116)	0.8	1.3 (2,93)	0.3
			Diameter			
Time	8.1 (2,109)	0.001	25.8 (2,122)	< 0.0001	25.8 (2,117)	< 0.0001
Time*oil	0.8 (2,109)	0.4	0.8 (2,122)	0.5	0.8 (2,117)	0.5
Time*age	2.7 (2,109)	0.1	0.7 (2,122)	0.5	0.7 (2,117)	0.5
Time*sex	0.5 (2,109)	0.6	0.1 (2,122)	0.9	0.1 (2,117)	0.8
Time*oil*sex	2.0 (2,109)	0.2	1.7 (2,122)	0.2	1.7 (2,117)	0.2
Time*oil*age	3.0 (2,109)	0.06	0.8 (2,122)	0.5	0.8 (2,117)	0.5
Time*age*sex	0.4 (2,109)	0.9	0.9 (2,122)	0.4	0.9 (2,117)	0.4
Time*oil*age*sex	0.2 (2,109)	0.8	0.7 (2,122)	0.5	0.7 (2,117)	0.5

Statistical analysis was by ANOVA with sex, type of oil and age as fixed factors. Bonferroni's correction was applied *post hoc*.

Supplementary Table 8. Results of statistical analysis of postprandial inflammatory cytokine concentrations in plasma from younger participants

	TNFα		IL-6		sICAM		IL-10	
	F(df)	P	F(df)	P	F(df)	P	F(df)	P
Time	115 (4,122)	< 0.0001	9.4 (3,63)	< 0.0001	1.9 (3,110)	0.1	6.0 (7,218)	< 0.0001
Time*oil	0.2 (4,122)	0.9	1.0 (3,63)	0.4	1.5 (3,110)	0.2	1.4 (7,218)	0.2
Time*sex	5.6 (4,122)	0.1	1.4 (3,63)	0.3	0.8 (3,110)	0.5	0.9 (7,218)	0.5
Time*oil*sex	1.8 (4,122)	0.1	0.9 (3,63)	0.5	2.1 (3,110)	0.1	1.0 (7,218)	0.4

Statistical analysis was by ANOVA with sex and type of oil fixed factors and time after the meal as a repeated measure. Bonferroni's correction was applied *post hoc*.