

Intake of saturated fatty acids affects atherogenic blood properties in young, Caucasian, overweight women even without influencing blood cholesterol

Jadwiga Hamułka ^{1*}, Dominika Głąbska ², Dominika Guzek ³, Agnieszka Białkowska ^{1,4} and Agnieszka Sulich ¹

Table S1. Between-group comparison of the food products intake in a diet of participants.

Food Products	Age < 40 Years		Age ≥ 40 Years		p **
	Mean ± SD	Median (range)	Mean ± SD	Median (range)	
Dairy beverages (g)	230.0 ± 164.1	189.2 (6.7-573.3)	210.4 ± 152.6	198.3 (0.0-623.3)	0.6261
Low-fat dairy products (g)	47.8 ± 44.5	34.4 * (0.0-123.3)	63.5 ± 53.7	50.0 * (0.0-183.3)	0.2381
High-fat dairy products (g)	21.8 ± 17.1	18.7 * (0.0-67.0)	21.6 ± 21.3	15.8 * (0.0-90.0)	0.7189
Meat (g)	90.4 ± 49.4	84.1 (0.0-240.0)	81.8 ± 38.3	76.7 (0.0-183.8)	0.4353
Meat products (g)	66.2 ± 33.3	63.3 (13.3-160.8)	52.9 ± 32.9	57.5 (0.0-135.0)	0.1188
Fish and fish products (g)	11.8 ± 23.4	0.0 * (0.0-90.0)	10.6 ± 19.9	0.0 * (0.0-70.0)	0.9522
Egg (g)	27.0 ± 17.6	25.2 (0.0-55.3)	25.7 ± 19.6	18.8 * (0.0-82.5)	0.5266
Plant fats (g)	19.7 ± 14.3	20.3 (0.0-55.0)	19.7 ± 17.1	16.3 * (0.0-72.3)	0.6941
Dairy fats (g)	28.6 ± 19.3	27.8 (0.0-70.0)	30.1 ± 19.7	27.1 * (2.5-113.8)	0.8311

* the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$); ** in the case of the normal distribution Student's t-test was applied and distribution different than normal, the Mann-Whitney U test was applied.

Table S2. Analysis of the correlation between total cholesterol (TC) blood level and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	p	R	p	R
Dairy beverages	0.231	0.2539	0.032	-0.3315
Low-fat dairy products	0.870 *	-0.0353	0.492 *	0.1090
High-fat dairy products	0.216 *	-0.2621	0.381 *	0.1386
Meat	0.197	-0.2728	0.009	0.4009
Meat products	0.012	0.5065	0.349	-0.1481
Fish and fish products	0.839 *	0.0439	0.370 *	0.1418
Egg	0.743	-0.0707	0.801 *	-0.0401
Plant fats	0.321	-0.2117	0.093 *	-0.2628
Dairy fats	0.097	0.3470	0.465 *	0.1157

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).

Table S3. Analysis of the correlation between low-density lipoprotein (LDL) cholesterol blood level and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	<i>p</i>	R	<i>p</i>	R
Dairy beverages	0.167	0.2916	0.025	-0.3445
Low-fat dairy products	0.884 *	-0.0314	0.528*	0.1000
High-fat dairy products	0.214 *	-0.2631	0.405*	0.1318
Meat	0.159	-0.2966	0.005	0.4250
Meat products	0.028	0.4481	0.201	-0.2014
Fish and fish products	0.839 *	0.0439	0.418 *	0.1284
Egg	0.761	-0.0654	0.764 *	-0.0478
Plant fats	0.464	-0.1568	0.084 *	-0.2698
Dairy fats	0.087	0.3569	0.468 *	0.1150

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).

Table S4. Analysis of the correlation between high-density lipoprotein (HDL) cholesterol blood level and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	<i>p</i>	R	<i>p</i>	R
Dairy beverages	0.393	0.1826	0.025	-0.3445
Low-fat dairy products	0.944 *	-0.0150	0.501 *	0.1068
High-fat dairy products	0.220 *	-0.2598	0.399 *	0.1336
Meat	0.186	-0.2796	0.009	0.3981
Meat products	0.057	0.3932	0.418	-0.1284
Fish and fish products	0.839 *	0.0458	0.409 *	0.1309
Egg	0.825	-0.0476	0.772 *	-0.0461
Plant fats	0.544	-0.1304	0.096 *	-0.2604
Dairy fats	0.115	0.3299	0.455 *	0.1184

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).

Table S5. Analysis of the correlation between total cholesterol to high-density lipoprotein cholesterol blood ratio (TC/HDL) and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	<i>p</i>	R	<i>p</i>	R
Dairy beverages	0.425	0.1707	0.068	-0.2848
Low-fat dairy products	0.884 *	-0.0314	0.500 *	0.1071
High-fat dairy products	0.214 *	-0.2631	0.397 *	0.1341
Meat	0.314	-0.2147	0.009	0.3964
Meat products	0.040	0.4229	0.273	-0.1732
Fish and fish products	0.839 *	0.0439	0.402 *	0.1328
Egg	0.839	-0.0437	0.775 *	-0.0455
Plant fats	0.438	-0.1660	0.092 *	-0.2634
Dairy fats	0.154	0.3003	0.452 *	0.1184

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).

Table S6. Analysis of the correlation between high-density lipoprotein cholesterol to low-density lipoprotein cholesterol blood ratio (HDL/LDL) and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	<i>p</i>	R	<i>p</i>	R
Dairy beverages	0.407 *	0.1774	0.060 *	-0.2923
Low-fat dairy products	0.883 *	-0.0314	0.500 *	0.1071
High-fat dairy products	0.214 *	-0.2631	0.397 *	0.1341
Meat	0.284 *	-0.2279	0.007 *	0.4093
Meat products	0.207 *	0.2671	0.460 *	-0.1171
Fish and fish products	0.839 *	0.0439	0.402 *	0.1328
Egg	0.643 *	-0.0996	0.775 *	-0.0455
Plant fats	0.386 *	-0.1854	0.092 *	-0.2634
Dairy fats	0.123 *	0.3235	0.452 *	0.1193

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).

Table S7. Analysis of the correlation between triglyceride blood level and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	<i>p</i>	R	<i>p</i>	R
Dairy beverages	0.382 *	0.1870	0.060 *	-0.2924
Low-fat dairy products	0.876 *	-0.0336	0.505 *	0.1057
High-fat dairy products	0.213 *	-0.2638	0.388 *	0.1366
Meat	0.301 *	-0.2200	0.007 *	0.4107
Meat products	0.219 *	0.2607	0.483 *	-0.1113
Fish and fish products	0.846 *	0.0420	0.397 *	0.1342
Egg	0.638 *	-0.1012	0.794 *	-0.0416
Plant fats	0.365 *	-0.1933	0.095 *	-0.0261
Dairy fats	0.117 *	0.3288	0.435 *	0.1237

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).

Table S8. Analysis of the correlation between the Atherogenic Index of Plasma (AIP) and food products intake in overweight women, stratified by age.

Food Products	Age < 40 Years		Age ≥ 40 Years	
	<i>p</i>	R	<i>p</i>	R
Dairy beverages	0.238	0.2503	0.065	-0.2876
Low-fat dairy products	0.884 *	-0.0317	0.060 *	-0.2924
High-fat dairy products	0.213 *	-0.2683	0.500 *	0.1071
Meat	0.193	-0.2754	0.007	0.4105
Meat products	0.021	0.4691	0.301	-0.1634
Fish and fish products	0.846 *	0.0420	0.402 *	0.1328
Egg	0.476	-0.1526	0.775 *	-0.0455
Plant fats	0.375	-0.1895	0.092 *	-0.2634
Dairy fats	0.138	0.3119	0.452 *	0.1193

* in the case of the distribution different than normal (verified using Shapiro-Wilk test – $p \leq 0.05$), the Spearman's rank correlation was applied (for the normal distribution – the Pearson correlation was applied).