

Supplementary material

Effects of daily consumption of an aqueous dispersion of free-phytosterols nanoparticles on patients with metabolic syndrome: A randomised, double-blind, placebo-controlled clinical trial

Table S1. Schedule of procedures and assessments at each visit.

Procedure/ assessment	Screening	Visit 1	Visit 2	Visit 3	Visit 4
Written informed consent		X			
Demographic information	X	X			
Health history	X	X			
Randomisation		X			
Concomitant medication	X	X	X	X	X
Physical examination		X	X	X	X
Vital signs: Blood pressure, heart rate		X	X	X	X
Anthropometric measurements: Height, weight, waist circumference	X	X	X	X	X
Lipid profile: Total cholesterol, LDL-c, VLDL-c, HDL-c, triglycerides, lipid particles	X	X	X	X	X
Biochemical profile: Insulin, fasting glycaemia	X	X	X	X	X
Glycated haemoglobin		X		X	X
Vitamin D		X	X	X	X
Pregnancy test (urine)		X			
Safety outcome evaluation			X	X	X
Bowel habit evaluation		X	X	X	X
Diet and physical activity		X	X	X	X
Participant's notebook check			X	X	X
Product delivery		X	X	X	
Phone contact	X-----X				

Table S2. Distribution of participants (%) with ‘abnormal’ levels for each MS criterion at baseline and visit 4 by group.

	Phytosterols (n=102)		Placebo (n=100)		Difference of proportion (in %) between groups* at V4 (95% CI)	p-value*
	Baseline n (%)	V4 n (%)	Baseline n (%)	V4 n (%)		
Waist circumference						
All ‘abnormal’	102 (100)	96 (94.12)	100 (100)	97 (97)	2.88 (-2.78 - 8.54)	0.321
- Men: ≥90 cm	28 (100)	27 (96.43)	26 (100)	26 (100)	3.57 (-3.3 - 10.44)	0.331
- Women: ≥80 cm	74 (100)	69 (93.24)	74 (100)	71 (95.95)	2.7 (-4.57 - 9.98)	0.467
Triglycerides						
All: ≥150 mg/dL	48 (47.06)	33 (32.35)	45 (45)	48 (48)	15.65 (2.29 - 29)	0.023
- Men	19 (67.86)	14 (50)	19 (73.08)	17 (65.38)	15.38 (-10.64 - 41.41)	0.253
- Women	29 (39.19)	19 (25.68)	26 (35.14)	31 (41.89)	16.21 (1.2 - 31.23)	0.037
HDL-c						
All ‘abnormal’	61 (59.8)	55 (53.92)	64 (64)	56 (56)	2.08 (-11.64 - 15.8)	0.767
- Men: <40 mg/dL	16 (57.14)	14 (50)	17 (65.38)	14 (53.85)	3.85 (-2.28 - 30.5)	0.778
- Women: <50 mg/dL	45 (60.81)	41 (55.41)	47 (63.51)	42 (56.76)	1.35 (-14.64 - 17.34)	0.868
SBP ≥130 mmHg OR DBP ≥85 mmHg						
All ‘abnormal’	57 (55.9)	39 (38.24)	43 (43)	36 (36)	2.24 (-15.56 - 11.09)	0.742
- Men	18 (64.29)	16 (57.1)	18 (69.23)	14 (53.8)	3.3 (-29.8 - 23.22)	0.808
- Women	39 (52.7)	23 (31.1)	25 (33.78)	22 (29.7)	-1.4 (-1.62 - 13.5)	0.858
Glycemia						
All: ≥100 mg/dL	25 (24.51)	30 (29.41)	18 (18)	23 (23)	-6.41 (-18.5 - 5.68)	0.300
- Men	5 (17.86)	7 (25)	7 (26.92)	9 (34.62)	9.62 (-14.71 - 33.94)	0.439
- Women	20 (27.03)	23 (31.08)	11 (14.86)	14 (18.92)	-12.16 (-25.98 - 1.65)	0.088

*Difference between placebo – phytosterols using test of proportions.

Table S3. Median and 25th-75th percentiles for each secondary outcome at visits 2, 3, and 4 by group.

	Phytosterol (n=102)			Placebo (n=100)		
	V2	V3	V4	V2	V3	V4
TChol (mg/dL) (p25-p75) p-value*	187.5 (167-211)	195.5 (167-228)	193 (165-221)	198.5 (173.5-233.5) 0.0738	195.5 (173-223) 0.9405	195 (170-223) 0.5609
LDL-c (mg/dL) (p25-p75) p-value*	116.5 (94-139)	118 (97-143)	119.5 (96-138)	120.5 (102-147) 0.1193	117.5 (98-142) 0.8928	120.5 (102-140) 0.7189
VLDL-c (mg/dL) (p25-p75) p-value*	24 (18-41)	26.5 (20-36)	25 (18-35)	28 (19-40.5) 0.3576	27 (17-43) 0.5616	28.5 (18-37) 0.3026
HDL-c (mg/dL) (p25-p75) p-value*	44.5 (38-53)	46 (39-56)	46 (40-55)	44 (39-52) 0.7251	44 (38-51.5) 0.2262	45 (39-53.5) 0.6839
TG (mg/dL) (p25-p75) p-value*	120 (92-203)	126.5 (97-173)	123 (87-175)	144 (98.5-200.5) 0.2604	140.5 (87-214.5) 0.3698	145 (99.5-191.5) 0.1137
FG (mg/dL) (p25-p75) p-value*	91.5 (86-100)	92.5 (86-100)	95 (90-102)	92 (85.5-100) 0.8425	91 (87-99) 0.5911	92 (87-98) 0.1712
HbA1c (%) (p25-p75) p-value*	Not taken	5.42 (5.12-5.88)	5.42 (5.12-5.88)	Not taken	5.27 (5.08-5.77) 0.2128	5.28 (2.08-5.85) 0.2180
FI (μU/mL) (p25-p75) p-value*	16.4 (10.48-20.88)	16.68 (12.32-24.74)	17.68 (11.68-23.86)	13.96 (10.33-23.48) 0.8060	15.79 (10.73-22.25) 0.2707	16.45 (10.9-23.36) 0.4995
HOMA-IR index (p25-p75) p-value*	3.65 (2.28-5.21)	3.83 (2.67-5.83)	4.07 (2.69-6.32)	3.21 (2.26-6.1) 0.7967	3.55 (2.48-5.43) 0.2396	3.63 (2.42-5.45) 0.2755
Weight (kg) (p25-p75) p-value*	78.75 (72-90.2)	79.05 (71.1-90)	78.5 (71.7-90)	79.1 (69.5-90) 0.8851	79.15 (69.25-90.05) 0.6823	80.05 (68.75-90.1) 0.6859
BMI (kg/mt ²) (p25-p75) p-value*	30.81 (27.32-33.86)	30.6 (27.38-34.02)	30.27 (27.43-34.16)	30.99 (28.16-34.49) 0.4497	30.82 (28.29-34.99) 0.3368	30.94 (28.11-34.5) 0.3497
WC (cm) (p25-p75) p-value*	97 (92-106)	97 (91-103)	94 (89-102)	98.5 (93-108) 0.1864	100 (93-108.5) 0.0154	99 (93-109.5) 0.0022
SBP (mm Hg) (p25-p75) p-value*	120.5 (112-130)	121.5 (111-129)	119 (112-129)	119.5 (111.5-129.5) 0.6095	118.5 (111-131) 0.9042	119 (112.4-128) 0.9242
DBP (mm Hg) (p25-p75) p-value*	82 (74-89)	79 (74-87)	79.5 (73-87)	80 (74-85) 0.1214	81 (75.5-87) 0.4408	80 (72.5-86) 0.6820

*p-value between phytosterol and placebo groups at V2, V3, and V4.

TChol: total cholesterol; LDL-c: low-density lipoprotein cholesterol; VLDL-c: very-low-density lipoprotein cholesterol; HDL-c: high-density lipoprotein cholesterol; TG: triglycerides; HbA1c: glycated haemoglobin; FI: fasting insulin; BMI: body mass index; WC: waist circumference; SBP: systolic blood pressure; DBP: diastolic blood pressure.

Table S4. Absolute difference between V2 and V1, V3 and V1, and V4 and V1 for each secondary outcome by group. All data are presented as median and 25th-75th percentiles.

	Phytosterol (n=102)			Placebo (n=100)		
	A Diff V2-V1	A Diff V3-V1	A Diff V4-V1	A Diff V2-V1	A Diff V3-V1	A Diff V4-V1
TChol (mg/dL) (p25-p75) p-value*	-6 (-16 - 4)	-1 (-13 - 14)	-3.5 (-20 9)	0 (-14.5 - 16.5) 0.0131	0 (-19.5 - 14) 0.9443	-1 (-18 - 12.5) 0.4206
LDL-c (mg/dL) (p25-p75) p-value*	-3.5 (-15 - 7)	-1 (-14 - 18)	-2 (-15 11)	0 (-14 - 10) 0.2027	-2.5 (-15 - 7.5) 0.5017	-1.5 (-15 - 8.5) 0.8510
VLDL-c (mg/dL) (p25-p75) p-value*	-1.5 (-8 - 3)	-1.5 (-8 - 4)	-3 (-11 - 4)	1 (-6.5 - 7.5) 0.0438	0 (-8 - 7.5) 0.1983	0 (-8 - 6) 0.1157
HDL-c (mg/dL) (p25-p75) p-value*	0 (-1 - 3)	2 (-1 - 7)	1 (-1 - 5)	1 (-2 - 3.5) 0.8943	1 (-2 - 4.5) 0.1083	1 (-2 - 5) 0.6563
TG (mg/dL) (p25-p75) p-value*	-9.5 (-42 - 14)	-13 (-46 - 17)	-16.5 (-57 - 15)	5 (-30.5 - 37) 0.0138	0.5 (-41.5 - 34.5) 0.0648	1.5 (-40 - 32) 0.0245
FG (mg/dL) (p25-p75) p-value*	-1 (-6 - 6)	0 (-4 - 5)	2 (-3 - 7)	2 (-4 - 6) 0.0467	1 (-4 - 6) 0.5404	1.5 (-3 - 6) 0.9769
HbA1c (%) (p25-p75) p-value*	Not taken	0.075 (-0.1 - 0.31)	0.2 (0.01 - 0.44)	Not taken	0.095 (-0.11 - 0.21) 0.8069	0.13 (0.01 - 0.43) 0.3653
FI (μU/mL) (p25-p75) p-value*	0.64 (-2.72 - 2.87)	1.15 (-2.17 - 5.8)	2.46 (-1.33 - 5.16)	1.34 (-2.95 - 6.21) 0.0848	2.28 (-1.4 - 6.2) 0.3875	2.67 (-1.1 - 5.48) 0.8135
HOMA-IR index (p25-p75) p-value*	0.01 (-0.87 - 0.63)	0.31 (-0.48 - 1.67)	0.62 (-0.25 - 1.46)	0.38 (-0.66 - 1.63) 0.0233	0.45 (-0.22 - 1.42) 0.4172	0.57 (-0.19 - 1.32) 0.9578
Weight (kg) (p25-p75) p-value*	0 (-1.1 - 1)	-0.15 (-1.6 - 1.3)	-0.2 (-2.1 - 1.4)	-0.15 (-1.2 - 0.9) 0.6378	0 (-0.8 - 1.55) 0.2696	0.4 (-0.95 - 1.55) 0.0905
BMI (kg/m ²) (p25-p75) p-value*	0 (-0.35 - 0.34)	-0.06 (-0.67 - 0.55)	-0.07 (-0.81 - 0.61)	-0.06 (-0.46 - 0.31) 0.5329	0 (-0.34 - 0.62) 0.2922	0.15 (-0.33 - 0.62) 0.1211
WC (cm) (p25-p75) p-value*	-1 (-4 - 1)	-2 (-5 - 0)	-4 (-7 - -1)	-0.75 (-3 - 1) 0.1666	0 (-2 - 2) 0.0011	0 (-3 - 2.5) 0.0001
SBP (mm Hg) (p25-p75) p-value*	-3.5 (-11 - 4)	-2.5 (-10 - 6)	-2 (-12 - 5)	-1 (-9 - 4) 0.4611	-0.5 (-10 - 5.5) 0.5062	-1 (-10.5 - 7.5) 0.2753
DBP (mm Hg) (p25-p75) p-value*	-2 (-8 - 3)	-2 (-9 - 3)	-2.5 (-9 - 3)	-2 (-9.5 - 2.5) 0.5382	-2 (-8 - 3.5) 0.6231	-3 (3.5 - -10) 0.9099

*p-value between phytosterol and placebo groups.

TChol: total cholesterol; LDL-c: low-density lipoprotein cholesterol; VLDL-c: very-low-density lipoprotein cholesterol; HDL-c: high-density lipoprotein cholesterol; TG: triglycerides; HbA1c: glycated haemoglobin; FI: fasting insulin; BMI: body mass index; WC: waist circumference; SBP: systolic blood pressure; DBP: diastolic blood pressure

Table S5. Relative difference (%) between V2 and V1, V3 and V1, and V4 and V1 for each secondary outcome by group. All data are presented as median and 25th-75th percentiles.

	Phytosterol (n=102)			Placebo (n=100)		
	R Diff V2-V1	R Diff V3-V1	R Diff V4-V1	R Diff V2-V1	R Diff V3-V1	R Diff V4-V1
TChol (p25-p75) p-value*	-2.99 (-8.33 - 2.37)	-0.5 (-6.74 - 7.1)	-1.78 (-9.19 - 4.74)	0 (-7.27 - 8.89) 0.0120	0 (-9.62 - 8.39) 0.9722	-0.68 (-8.72 - 7.42) 0.3718
LDL-c (p25-p75) p-value*	-2.74 (-12.5 - 6.02)	-0.98 (-12 - 12.1)	-1.44 (-10.91 - 10.34)	0 (-11.44 - 10.31) 0.1764	-1.84 (-12.1 - 7.94) 0.6183	-0.94 (-11.37 - 8.7) 0.9376
VLDL-c (p25-p75) p-value*	-5.56 (-26.1 - 15.4)	-7.69 (-28.20 - 15.79)	-10.52 (-35.9 - 19.05)	3.52 (-19.44 - 25) 0.0263	0 (-25.54 - 31.03) 0.1883	0 (-21.28 - 62.15) 0.0381
HDL-c (p25-p75) p-value*	0 (-2.86 - 7.84)	5.33 (-2.70 - 14.47)	2.53 (-2.5 - 12.28)	1.82 (-4.77 - 7.9) 0.9625	2.17 (-4.6 - 10.87) 0.0770	2.56 (-5.20 - 10.07) 0.5077
TG (p25-p75) p-value*	-7.98 (-27.78 - 13.64)	-9.68 (-28.54 - 14.15)	-12.55 (-38.14 - 9.4)	3.9 (-18.9 - 24) 0.0151	.34 (-25.62 - 30.49) 0.0760	0.81 (-21.14 - 26.2) 0.0061
FG (p25-p75) p-value*	-1.16 (-6.5 - 6.52)	0 (-4.35 - 6.25)	1.88 (-3.45 - 8)	2.21 (-4.16 - 7.59) 0.0512	1.09 (-4.30 - 6.77) 0.4553	1.7 (-3.25 - 6.89) 0.9290
HbA1c (p25-p75) p-value*	Not taken	1.42 (-1.73 - 5.81)	3.95 (0.19 - 8.83)	Not taken	1.75 (-2.05 - 4.34) 0.8833	2.6 (0.16 - 8.4) 0.3763
FI (p25-p75) p-value*	3.04 (-13.71 - 20.79)	10.26 (-11.92 - 46.67)	17.6 (-6.71 - 45.63)	17.63 (-18.7 - 45.81) 0.0648	21.04 (-6.66 - 50.59) 0.2950	22.5 (-7.85 - 52.91) 0.5881
HOMA-IR index (p25-p75) p-value*	0.15 (-22 - 28.29)	9.81 (-16.7 - 55.8)	19.45 (-7.51 - 53.73)	14.7 (-20.03 - 53.26) 0.0211	22.65 (-7.32 - 52.04) 0.3062	25.12 (-6.48 - 57.52) 0.6353
Weight (p25-p75) p-value*	0 (-1.11 - 1.07)	-0.20 (-2.09 - 1.69)	-0.19 (-2.05 - 2)	-0.19 (-1.59 - 1.01) 0.5401	0 (-1.06 - 2.06) 0.3465	0.44 (-1.04 - 1.99) 0.1453
BMI (p25-p75) p-value*	0 (-1.11 - 1.07)	-0.20 (-2.09 - 1.69)	-0.19 (-2.05 - 2)	-0.19 (-1.59 - 1.01) 0.5401	0 (-1.06 - 2.06) 0.3465	0.44 (-1.04 - 1.99) 0.1453
WC (p25-p75) p-value*	-1.03 (-3.57 - 0.91)	-2.09 (-5.21 - 3.39)	-3.74 (-7.5 - 1.01)	-0.72 (-2.7 - 1.12) 0.1496	0 (-2.2 - 2.21) 0.0007	0 (-2.95 - 2.34) 0.0000
SBP (p25-p75) p-value*	-2.56 (-8 - 3.38)	-2.24 (-8 - 4.42)	-1.65 (-8.96 - 3.65)	-0.86 (-7.5 - 3.61) 0.5087	-0.38 (-7.98 - 4.62) 0.4972	-0.92 (-8.13 - 6.27) 0.2792
DBP (p25-p75) p-value*	-2.33 (-8.89 - 3.75)	-2.47 (-12.12 - 3.61)	-3.19 (-10.98 - 3.45)	-3.06 (-10.16 - 3.54) 0.5465	-2.59 (-9.81 - 4.17) 0.6064	-3.57 (-12.9 - 3.83) 0.9319

*p-value between phytosterol and placebo groups.

TChol: total cholesterol; LDL-c: low-density lipoprotein cholesterol; VLDL-c: very-low-density lipoprotein cholesterol; HDL-c: high-density lipoprotein cholesterol; TG: triglycerides; HbA1c: glycated haemoglobin; FI: fasting insulin; BMI: body mass index; WC: waist circumference; SBP: systolic blood pressure; DBP: diastolic blood pressure

Table S6. Baseline characteristics of participants in the sub-sample to evaluate the particle number for lipoproteins by group. All data are presented as median and 25th-75th percentiles.

	Phytosterol (n=59)	Placebo (n=57)
Sociodemographic variables		
Age in months, median (p25-p75)	509 (416-630)	542 (418-631)
Sex		
Men, n (%)	19 (32.2)	19 (33.33)
Women, n (%)	40 (67.80)	38 (66.67)
Socioeconomic status (self-reported)		
High, n (%)	3 (5.08)	2 (3.51)
Middle, n (%)	56 (94.92)	55 (96.49)
Low, n (%)	0	0
General health-related information		
Underlying health condition		
Yes, n (%)	68(13.56)	11 (19.30)
No, n (%)	51 (86.44)	46 (80.70)
Concomitant medication		
Yes, n (%)	25 (42.37)	26 (45.61)
No, n (%)	34 (57.63)	31 (54.39)
Smoking		
Yes, n (%)	29 (49.15)	35 (61.40)
No, n (%)	30 (50.85)	22 (38.60)
Alcohol consumption		
Yes, n (%)	18 (30.51)	21 (36.84)
No, n (%)	41 (69.49)	36 (63.16)
Physical activity		
Yes, n (%)	31 (52.54)	31 (54.39)
No, n (%)	28 (47.46)	26 (45.61)
Blood test parameters, median (p25-p75)		
Total cholesterol (mg/dL)	196 (170-220)	191 (163-214)
LDL-c (mg/dL)	116 (99-141)	114 (98-133)
VLDL-c (mg/dL)	28 (21-42)	28 (18-42)
Insulin (μU/mL)	16.32 (10.44-24.11)	12.63 (8.86-19.39)
Glycated haemoglobin - HbA1c (%)	5.42 (5.07-6.07)	5.35 (5.01-5.76)
Vitamin D (ng/mL)	24.5 (20.2-28.8)	23.3 (18.6-29.2)
Anthropometric measurements and vital signs, median (p25-p75)		
Weight (kg)	82.9 (77.3-93.7)	83.8 (71-95)
Height (mt)	1.6 (1.55-1.68)	1.61 (1.55-1.71)
Body mass index (kg/mt ²)	32.18 (28.68-35.21)	30.46 (28.59-34.31)
Heart rate (beats per minute)	72 (67-78)	71 (65-75)
Metabolic syndrome variables, median (p25-p75)		
Waist circumference (cm)	101 (96-110)	103 (94-111)
Triglycerides (mg/dL)	140 (108-221)	141 (92-208)
HDL-c (mg/dL)	42 (37-52)	43 (37-50)
Systolic blood pressure (mm Hg)	127 (118-137)	123 (113-138)
Diastolic blood pressure (mm Hg)	86 (80-94)	84 (76-90)
Fasting glycaemia (mg/dL)	95 (89-106)	92 (86-99)
Lipoproteins at baseline, median (p25-p75)		
LDL-p (nmol/L)	806.3 (695.1-917.3)	819.2 (719.6-933.73)
Small LDL-p (nmol/L)	444.4 (408.9-508.21)	472.17 (417.5-550)
Medium LDL-p (nmol/L)	225.8 (174.8-283.3)	224.2 (177.01-272.5)

Large LDL-p (nmol/L)	114.5 (94.11-124.6)	115.8 (99.79-130.7)
VLDL-p (nmol/L)	52.07 (35.6-85.8)	53.58 (34.41-78.71)
Small VLDL-p (nmol/L)	45.62 (29.06-73.29)	46.38 (29.65-68.86)
Medium VLDL-p (nmol/L)	5.59 (4.09-8.17)	5.68 (3.81-7.68)
Large VLDL-p (nmol/L)	1.29 (0.89-1.94)	1.27 (0.95-1.9)
HDL-p (μmol/L)	25.3 (22.03-28.3)	24.64 (20.6-28.3)
Small HDL-p (μmol/L)	16.52 (13.29-18.37)	16.51 (13.46-19.33)
Medium HDL-p (μmol/L)	8.45 (7.71-9.35)	8.19 (6.96-8.65)
Large HDL-p (μmol/L)	0.27 (0.24-0.3)	0.25 (0.23-0.3)

(p25-p75): 25th percentile and 75th percentile; LDL-c: low-density lipoprotein cholesterol; VLDL-c: very-low-density lipoprotein cholesterol; HDL-c: high-density lipoprotein cholesterol; VLDL-p: very-low-density lipoprotein particles; LDL-p: low-density lipoprotein particles; HDL-p: high-density lipoprotein particles.

Table S7. Median and 25th-75th percentiles for each lipoprotein at visits 2, 3, and 4 by group.

	Phytosterol (n=59)			Placebo (n=57)		
	V2	V3	V4	V2	V3	V4
LDL-p (nmol/L) (p25-p75)	803.5 (704.9-881.5)	831.6 (732.4-974.3)	880.8 (775.7-1024)	859.7 (718.5-1010)	908.3 (792-1007)	916.8 (791.5-1016)
s-LDL-p (nmol/L) (p25-p75)	459.8 (394.2-504)	475.1 (419.5-536.7)	530.2 (442.4-619.9)	492.6 (420-585.2)	515.8 (433.6-577.1)	542.3 (451.8-611.9)
m-LDL-p (nmol/L) (p25-p75)	227.5 (167-291.1)	235.5 (203.6-305.2)	240.4 (185.7-295.2)	227.8 (184.2-276)	251.5 (205.5-294.2)	256.15 (201.7-288.6)
l-LDL-p (nmol/L) (p25-p75)	114.7 (98.5-128.4)	116.1 (96.9-130.8)	115.2 (95.8-130.8)	109.2 (99.2-131.6)	118.5 (102-132.6)	114.9 (100.6-133.3)
VLDL-p (nmol/L) (p25-p75)	44.54 (31.6-71.2)	48.3 (38-64.7)	46.45 (33.6-75.6)	59.1 (37.3-82.8)	47.71 (29.5-74.2)	55.6 (32.2-73.3)
s-VLDL-p (nmol/L) (p25-p75)	38.36 (26.5-62)	40.63 (31.8-55.4)	40.59 (28.4-66.6)	53.55 (32-73.5)	42.11 (24.8-65)	49.66 (27.2-65.6)
m-VLDL-p (nmol/L) (p25-p75)	5.05 (4-7.7)	5.53 (4.5-7.6)	4.97 (4.1-7.5)	5.86 (4.3-7.7)	4.91 (3.8-7.55)	5.11 (4.1-6.5)
l-VLDL-p (nmol/L) (p25-p75)	1.15 (0.9-1.7)	1.15 (0.9-1.5)	1.12 (0.1-1.7)	1.36 (1.1-2)	1.16 (0.8-1.8)	1.37 (0.9-1.6)
HDL-p (μmol/L) (p25-p75)	23.75 (21.6-26.9)	24.57 (21.8-27.1)	23.91 (21.2-26.1)	23.84 (21.3-27)	22.7 (20.9-26.8)	23.45 (21.5-25.5)
s-HDL-p (μmol/L) (p25-p75)	15.93 (13.5-18)	16.27 (14.4-18.5)	15.51 (13.1-17.6)	16 (13.4-17.9)	15.5 (13.3-18.4)	15.55 (13.2-17.1)
m-HDL-p (μmol/L) (p25-p75)	7.93 (7.19-8.91)	8.06 (6.99-9.03)	7.96 (7.1-8.58)	7.68 (7.16-8.52)	7.78 (7.03-8.51)	7.92 (7.12-8.41)
l-HDL-p (μmol/L) (p25-p75)	0.25 (0.23-0.29)	0.26 (0.23-0.29)	0.25 (0.23-0.28)	0.25 (0.23-0.29)	0.25 (0.23-0.28)	0.25 (0.22-0.28)