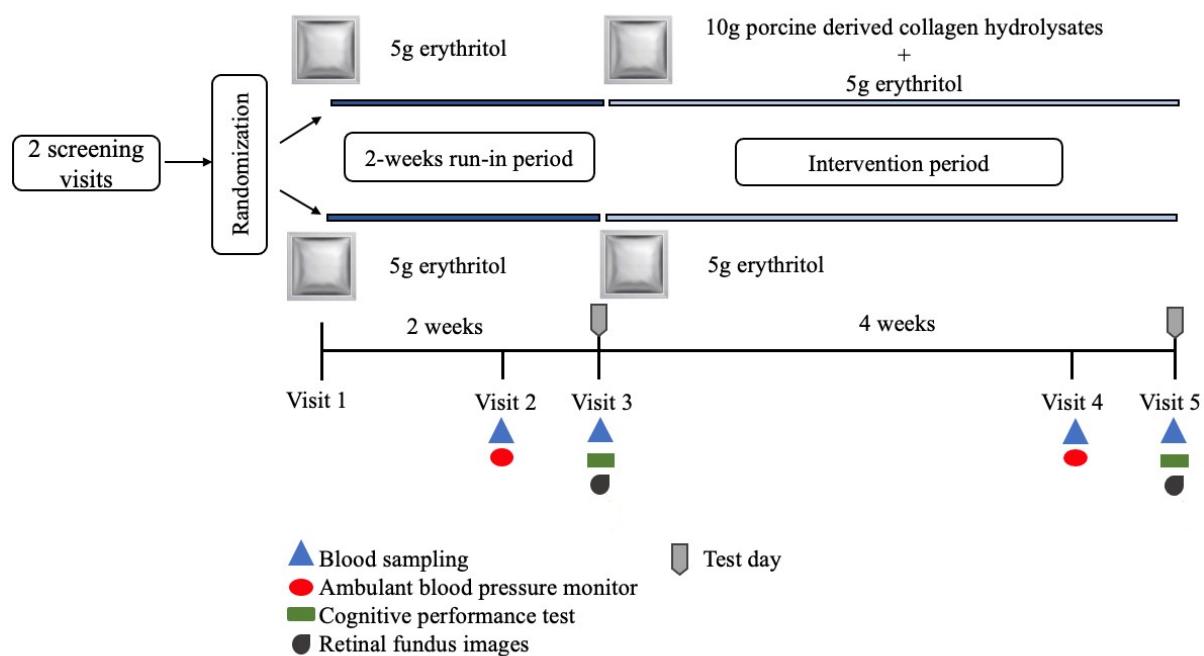
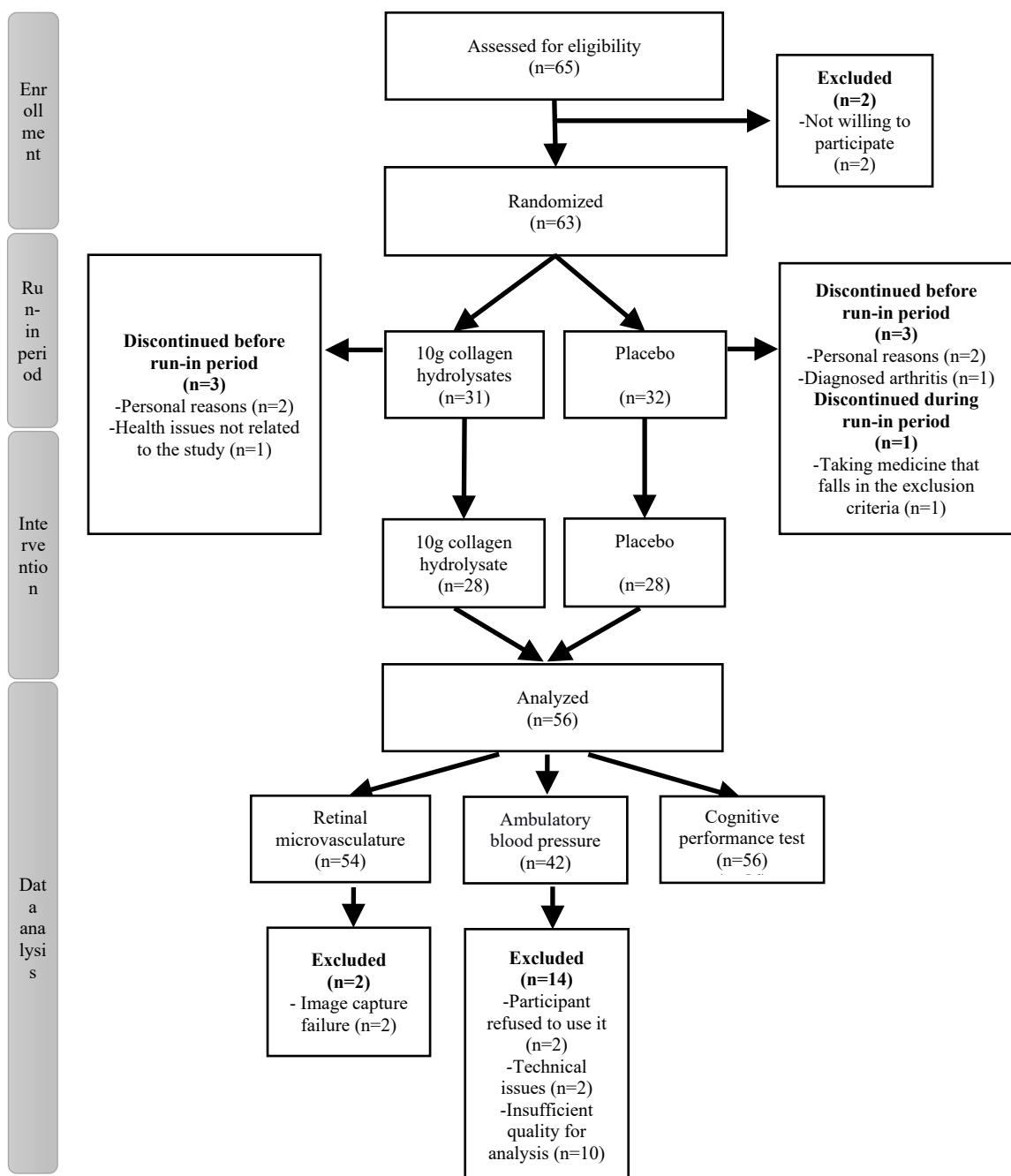


Supplementary material



Supplementary Figure 1. Study design.



Supplementary Figure 2. Flow chart of the collagen hydrolysates study.

Supplementary Table 1. Baseline characteristics at screening of the total study population and per group

	Total group	Collagen-hydrolysates group	Placebo group	Between group p-value
Age (years)	61 ± 10	62 ± 11	60 ± 9	0.400
Females N (%) ^a	30 (54)	16 (57)	15 (54)	0.788
Body weight (kg)	84.5 ± 10.9	84.4 ± 11.4	84.6 ± 10.5	0.937
Height (cm)	171.1 ± 8.6	169.7 ± 7.7	172.5 ± 9.3	0.596
BMI (kg/m ²) ^b	28.2 (27.0-30.4)	28.3 (27.2-31.7)	28.1 (26.4-29.1)	0.268
Office SBP (mmHg)	130 ± 15	131 ± 15	129 ± 16	0.341
Office DBP (mmHg)	82 ± 8	81 ± 7	84 ± 9	0.244
Waist Circumference (cm)	98.4 ± 9.5	99.0 ± 9.9	97.7 ± 9.2	0.604
Hip Circumference (cm) ^b	105.7 (103.7-112.1)	107.8 (104.3-113.8)	105.2 (103.7-111.2)	0.431
TAG (mmol/L) ^b	1.21 (0.92-1.72)	1.39 (1.03-1.96)	1.00 (0.85-1.47)	0.049
Total Cholesterol (mmol/L)	5.68 ± 0.81	5.74 ± 0.52	5.62 ± 1.02	0.306

Abbreviations: BMI, body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; TAG, triacylglycerol.

Values are mean ± SD or median with ranges (25-75th percentiles)

Independent sample t-test; ^aChi-square; ^b Mann-Whitney U test; In bold p-value < 0.05.

Collagen hydrolysate group n=28, placebo group n=28.

Supplementary Table 2. Effects of 10-gram collagen protein hydrolysates on daytime nighttime blood pressure profiles at the end of the run-in period and at the end of the intervention period per group

	Collagen-hydrolysates group Run-in period	Collagen-hydrolysates group End of study	Placebo group Run-in period	Placebo group End of study	Treatment effect (95% CI)	p-value
Daytime blood pressure						
SBP (mmHg)	132 ± 12	128 ± 11	129 ± 11	126 ± 8	1 (-3, 5)	0.731
DBP (mmHg)	81 ± 9	78 ± 9	81 ± 7	80 ± 6	-2 (-6, 1)	0.146
MAP (mmHg)	105 ± 10	101 ± 9	103 ± 9	101 ± 6	-1 (-5, 2)	0.441
HR (beats/min)	68 ± 9	68 ± 7	71 ± 9	71 ± 10	0 (-3, 3)	0.816
PP (mmHg)	50 ± 9	51 ± 7	47 ± 8	45 ± 7	3 (0, 7)	0.050
Nighttime blood pressure						
SBP (mmHg)	120 ± 11	117 ± 9	114 ± 10	118 ± 13	-2 (-9, 4)	0.453
DBP (mmHg)	70 ± 9	69 ± 7	70 ± 6	69 ± 9	-1 (-5, 4)	0.735
MAP (mmHg)	93 ± 9	91 ± 7	90 ± 7	91 ± 10	-2 (-7, 3)	0.506
HR (beats/min)	59 ± 8	59 ± 9	60 ± 8	61 ± 9	-1 (-4, 2)	0.529
PP (mmHg) ^a	50 ± 8	48 ± 6	45 ± 7	47 ± 7		0.336
SD of individual						
SD 24-hour SBP (mmHg)	13 ± 3	13 ± 4	13 ± 4	13 ± 4	0 (-2, 2)	0.952
SD 24-hour DBP (mmHg) ^a	10 ± 2	10 ± 4	9 ± 3	10 ± 4		0.457
SD 24-hour HR (beats/min)	8 ± 3	11 ± 3	10 ± 4	11 ± 4	1 (-2, 3)	0.493
SD daytime SBP (mmHg)	8 ± 2	12 ± 5	7 ± 3	11 ± 5	0 (-2, 3)	0.766
SD daytime DBP (mmHg) ^a	8 ± 3	9 ± 4	7 ± 2	8 ± 5		0.085
SD daytime HR (beats/min)	7 ± 4	8 ± 4	9 ± 4	9 ± 7		
SD daytime HR (beats/min) \log_{10} back transformed	7 ± 2	8 ± 2	8 ± 2	8 ± 2		0.411
SD nighttime SBP (mmHg)	7 ± 5	8 ± 4	9 ± 3	9 ± 4		
SD nighttime SBP (mmHg) \log_{10} back transformed	8 ± 2	7 ± 2	8 ± 1	9 ± 2		0.277
SD nighttime DBP (mmHg)	8 ± 3	7 ± 3	7 ± 2	8 ± 3	-1 (-3, 2)	0.554
SD nighttime HR (beats/min)	4 ± 2	5 ± 2	5 ± 2	4 ± 3	-1 (-4, 2)	0.596

Abbreviations: SBP systolic blood pressure; DBP, diastolic blood pressure; MAP, mean arterial pressure; PP, pulse pressure; HR, heart rate. Values are mean \pm SD. Treatment effect changes were evaluated with 1-factor ANCOVA with baseline value as a covariate. ^a When residuals were not normally distributed, treatment effect changes were evaluated with Quade's ANCOVA with baseline value as a covariate. In bold p-value < 0.05 .

The treatment effect was estimated as the difference in changes (End of study - Run-in) between the collagen hydrolysates group and the placebo group, adjusted for run-in values. Collagen hydrolysates group n=19, placebo group n=23.

