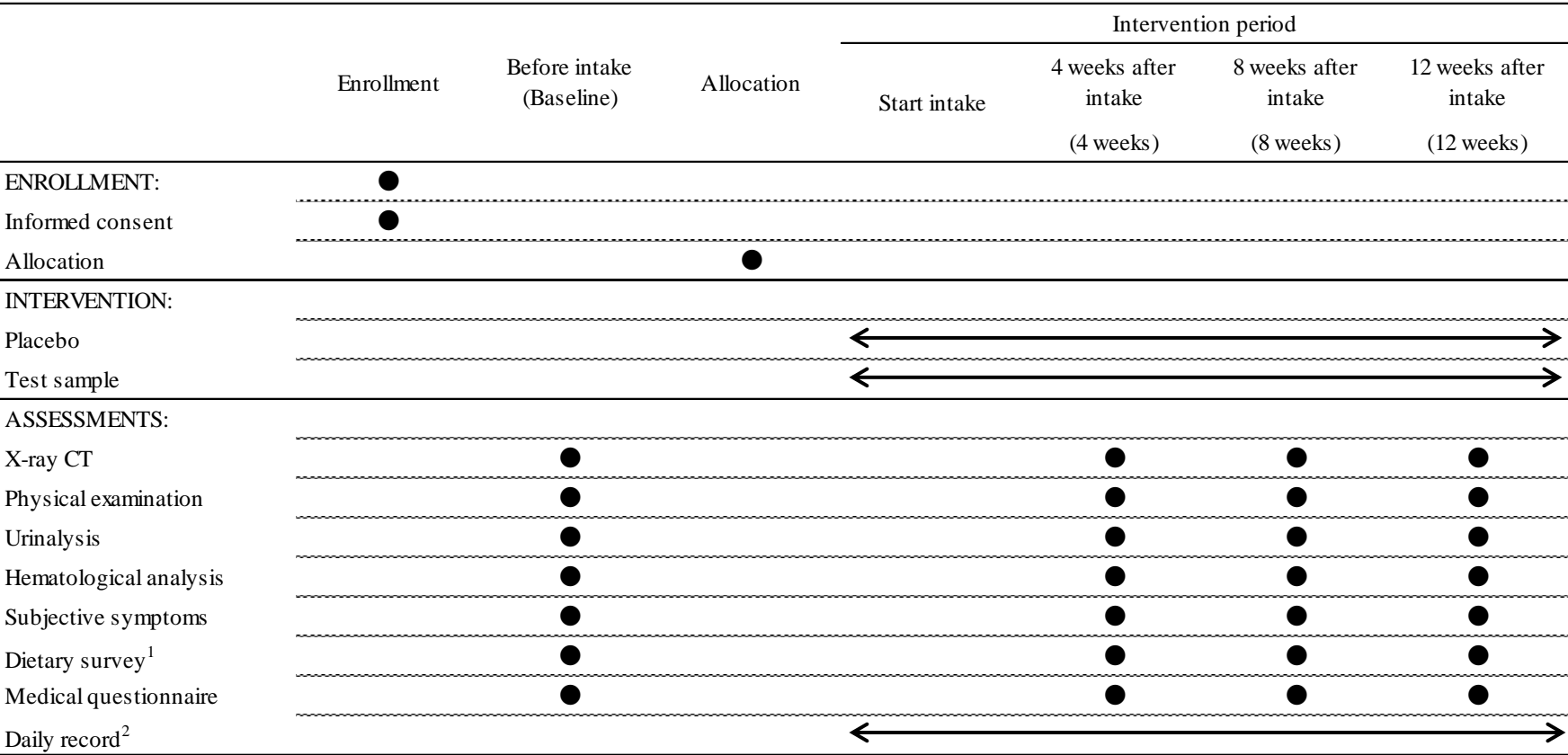


Appendix 1. Schedule of enrollment, intervention, and assessments.



Closed circles (●): executed timing.

¹ Dietary survey was conducted for 3 days before each test day.

² Daily record included the record of fructose intake.

Appendix 2. The supplemental data of VFA.

Parameter (Unit)	Intervention period	Placebo group (n = 95)					Intervention group (n = 94)					Difference between the two groups		
		Mean	SE	EMM ¹	95% CI-	95% CI+	Mean	SE	EMM ¹	95% CI-	95% CI+	Difference	95% CI-	95% CI+
VFA (cm ²)	Baseline ²	99.3	3.7	–	–	–	99.6	4.0	–	–	–	0.4	–10.4	11.2
	4 weeks ³	98.3	3.8	98.5	95.4	101.5	95.9	3.8	95.8	92.7	98.8	–2.7	–7.0	1.7
	8 weeks ³	98.1	3.7	98.2	95.2	101.3	94.0	3.9	93.8	90.7	96.9	–4.4	–8.8	–0.1
	12 weeks ³	98.5	4.0	98.6	95.6	101.7	93.2	4.0	93.0	89.9	96.1	–5.6	–10.0	–1.3
Δ VFA (cm ²)	4 weeks ³	–1.0	1.6	–1.0	–4.1	2.1	–3.7	1.8	–3.7	–6.8	–0.6	–2.7	–7.0	1.7
	8 weeks ³	–1.2	1.4	–1.2	–4.3	1.8	–5.7	1.6	–5.7	–8.8	–2.6	–4.4	–8.8	–0.1
	12 weeks ³	–0.8	1.4	–0.8	–3.9	2.2	–6.5	1.8	–6.4	–9.5	–3.4	–5.6	–10.0	–1.3

¹ EMM of the difference was obtained by subtracting the value of the placebo group from that of the intervention group.

² Data are presented as the mean \pm SE.

³ Data are presented as the mean \pm SE, EMM, and the 95%CI (95%CI-, 95%CI+).

Appendix 3. The EMM and the 95% CI of physical examination parameters for analysis of intragroup analysis.

Parameter (Unit)	Intervention period	Placebo group (n = 95)			Intervention group (n = 94)		
		EMM ¹	95% CI-	95% CI+	EMM ¹	95% CI-	95% CI+
VFA (cm ²)	Baseline	99.3	91.7	106.8	99.6	91.9	107.4
	4 weeks	98.3	90.8	105.8	95.9	88.2	103.7
	8 weeks	98.1	90.5	105.6	94.0	86.2	101.7
	12 weeks	98.5	90.9	106.0	93.2	85.4	101.0
SFA (cm ²)	Baseline	223.9	209.5	238.2	225.8	211.4	240.2
	4 weeks	224.1	209.7	238.5	225.1	210.7	239.5
	8 weeks	224.3	210.0	238.7	228.1	213.7	242.5
	12 weeks	225.3	210.9	239.7	228.7	214.3	243.1
TFA (cm ²)	Baseline	323.1	307.0	339.3	325.4	308.9	342.0
	4 weeks	322.4	306.2	338.5	321.0	304.5	337.5
	8 weeks	322.4	306.2	338.6	322.1	305.6	338.6
	12 weeks	323.8	307.6	340.0	321.9	305.4	338.4

¹ EMM of the difference was obtained by subtracting the value of the baseline from the reading at the time.

Appendix 4. Intergroup comparisons of SFA and TFA between the two groups.

Parameter (Unit)	Intervention period	Placebo group (n = 95)					Intervention group (n = 94)					Difference between the two groups			
		Mean	SE	EMM ¹	95% CI-	95% CI+	Mean	SE	EMM ¹	95% CI-	95% CI+	Difference	95% CI-	95% CI+	P value
SFA (cm ²)	Baseline ²	223.9	7.0	–	–	–	225.8	7.3	–	–	–	1.9	–18.0	21.9	0.848
	4 weeks ³	224.1	7.2	225.0	220.9	229.2	225.1	7.3	224.2	220.0	228.3	–0.9	–6.7	5.0	0.774
	8 weeks ³	224.3	7.4	225.3	221.1	229.4	228.1	7.1	227.2	223.0	231.3	1.9	–4.0	7.7	0.528
	12 weeks ³	225.3	7.4	226.3	222.1	230.4	228.7	7.4	227.7	223.6	231.9	1.4	–4.4	7.3	0.628
Δ SFA (cm ²)	4 weeks ³	0.2	2.0	0.2	–3.9	4.3	–0.7	1.9	–0.7	–4.8	3.5	–0.9	–6.7	5.0	0.774
	8 weeks ³	0.5	2.3	0.5	–3.7	4.6	2.3	1.8	2.3	–1.8	6.5	1.9	–4.0	7.7	0.528
	12 weeks ³	1.5	2.3	1.4	–2.7	5.6	2.9	2.1	2.9	–1.3	7.0	1.4	–4.4	7.3	0.628
TFA (cm ²)	Baseline ²	323.1	7.8	–	–	–	325.4	8.3	–	–	–	2.3	–20.2	24.8	0.840
	4 weeks ³	322.4	8.1	323.5	318.0	329.0	321.0	8.2	319.9	314.4	325.5	–3.5	–11.4	4.3	0.374
	8 weeks ³	322.4	8.3	323.5	318.0	329.0	322.1	8.1	321.0	315.4	326.5	–2.6	–10.4	5.3	0.521
	12 weeks ³	323.8	8.4	324.9	319.4	330.4	321.9	8.6	320.7	315.2	326.3	–4.2	–12.0	3.6	0.292
Δ TFA (cm ²)	4 weeks ³	–0.8	2.8	–0.8	–6.3	4.7	–4.4	2.7	–4.3	–9.9	1.2	–3.5	–11.4	4.3	0.374
	8 weeks ³	–0.7	2.9	–0.8	–6.3	4.7	–3.4	2.7	–3.3	–8.9	2.2	–2.6	–10.4	5.3	0.521
	12 weeks ³	0.6	2.8	0.6	–4.9	6.2	–3.6	2.9	–3.6	–9.1	2.0	–4.2	–12.0	3.6	0.292

¹ EMM of the difference was obtained by subtracting the value of the placebo group from that of the intervention group.

² Data are presented as the mean \pm SE and were compared between the two groups using the Student's t-test.

³ Data are presented as the mean \pm SE, EMM, and the 95%CI (95%CI–, 95%CI+). The data for each timepoint and the changes from baseline were compared between groups in linear mixed models with baseline values as covariates, time, group, in-teraction between time and group, interaction between baseline values and time, and study participants as factors.

Appendix 6. The EMM and the 95%CI of parameters obtained from physical examination and biochemical analysis for analysis of intragroup analysis.

Parameter (Unit)	Placebo group (n = 95)											
	EMM ¹	95% CI-	95% CI+	EMM ¹	95% CI-	95% CI+	EMM ¹	95% CI-	95% CI+	EMM ¹	95% CI-	95% CI+
	Baseline			4 weeks			8 weeks			12 weeks		
Body weight (kg)	69.6	67.7	71.5	69.4	67.5	71.3	69.3	67.4	71.2	69.0	67.1	70.9
BMI (kg/m ²)	25.6	25.2	26.0	25.6	25.2	25.9	25.5	25.1	25.9	25.4	25.0	25.8
Abdominal circumference ² (cm)	92.1	90.8	93.4	91.7	90.5	93.0	92.0	90.7	93.3	91.4	90.2	92.7
Waist circumference ³ (cm)	84.0	82.8	85.3	84.5	83.2	85.7	84.7	83.4	85.9	84.0	82.7	85.3
Body fat ratio (%)	30.9	29.4	32.5	30.3	28.7	31.8	29.8	28.3	31.4	29.6	28.1	31.2
Fat mass (kg)	21.3	20.2	22.3	20.8	19.7	21.8	20.4	19.4	21.5	20.2	19.2	21.3
Lean mass (kg)	48.3	46.3	50.3	48.6	46.6	50.6	48.9	46.9	50.9	48.8	46.8	50.8
Muscle mass (kg)	45.6	43.7	47.5	45.9	43.9	47.8	46.1	44.2	48.0	46.0	44.1	47.9
T-Cho (mg/dL)	223.7	216.0	231.5	226.5	218.8	234.3	223.0	215.2	230.7	220.5	212.8	228.3
HDL-Cho (mg/dL)	61.6	58.6	64.5	62.6	59.6	65.6	61.7	58.7	64.7	60.3	57.3	63.3
LDL-Cho (mg/dL)	136.8	129.9	143.7	139.5	132.6	146.4	136.6	129.7	143.5	135.9	129.0	142.7
TG (mg/dL)	127.0	112.5	141.6	128.6	114.1	143.2	125.6	111.1	140.2	123.5	109.0	138.1
Intervention group (n = 94)												
Body weight (kg)	69.6	67.8	71.5	69.3	67.4	71.1	69.0	67.2	70.9	68.3	66.4	70.2
BMI (kg/m ²)	25.7	25.3	26.1	25.5	25.2	25.9	25.4	25.1	25.8	25.2	24.8	25.6
Abdominal circumference ² (cm)	92.0	90.7	93.4	91.6	90.2	92.9	91.5	90.1	92.8	91.3	89.9	92.6
Waist circumference ³ (cm)	84.7	83.3	86.1	84.7	83.2	86.1	84.1	82.6	85.5	84.1	82.7	85.5
Body fat ratio (%)	31.4	29.9	32.8	30.4	29.0	31.8	30.5	29.0	31.9	30.1	28.6	31.5
Fat mass (kg)	21.6	20.6	22.7	20.9	19.8	21.9	20.8	19.8	21.8	20.7	19.6	21.7
Lean mass (kg)	48.0	46.1	49.9	48.7	46.8	50.6	48.2	46.4	50.1	48.1	46.2	50.0
Muscle mass (kg)	45.2	43.4	47.0	45.6	43.8	47.4	45.4	43.6	47.2	44.8	43.0	46.6
T-Cho (mg/dL)	228.3	221.2	235.4	226.3	219.2	233.4	224.7	217.6	231.8	220.8	213.7	227.9
HDL-Cho (mg/dL)	63.8	60.1	67.5	63.9	60.2	67.6	62.9	59.2	66.6	62.4	58.7	66.1
LDL-Cho (mg/dL)	140.3	133.7	146.9	135.9	129.3	142.5	135.6	129.0	142.2	134.2	127.6	140.8
TG (mg/dL)	127.2	104.1	150.2	144.6	121.5	167.6	133.9	110.9	157.0	126.6	103.6	149.7

¹ EMM of the difference was obtained by subtracting the value of the baseline from the reading at the time.

² Circumference at the level of the umbilicus was recorded.

³ Minimum abdominal circumference was recorded.

Appendix 7. Adverse events during the study.

Subject ID	Symptom	Occurrence day in 2021	Disappearance day in 2021	Severity	Treatment	Progress and outcome	Causality	
Placebo group								
54839	Eczema	April 11	April 12	Mild	Medication	Recovery/ disappearance	No association	
56020	Common cold	April 15	April 16	Mild	Medication	Recovery/ disappearance	No association	
56033	Headache	April 11	April 15	Mild	Medication	Recovery/ disappearance	No association	
		April 21	April 23	Mild	Medication	Recovery/ disappearance	No association	
56285	Allergic rhinitis	April 2	May 2	Mild	Medication	Recovery/ disappearance	No association	
	Cough	April 2	April 23	Mild	Medication	Recovery/ disappearance	No association	
56317	Eye strain	May 8	May 17	Mild	Medication	Recovery/ disappearance	No association	
	Hemostasis	May 8	May 13	Mild	Medication	Recovery/ disappearance	No association	
	Mydriasis	May 8	May 15	Mild	Medication	Recovery/ disappearance	No association	
57248	Back pain	April 6	April 7	Mild	Medication	Recovery/ disappearance	No association	
57823	Muscle pain	April 1	May 12	Mild	Medication	Recovery/ disappearance	No association	
57829	Allergic rhinitis	March 29	April 11	Mild	Medication	Recovery/ disappearance	No association	
Intervention group								
56022	Headache	April 10	April 11	Mild	Medication	Recovery/ disappearance	No association	
		April 13	April 14	Mild	Medication	Recovery/ disappearance	No association	
		April 15	April 16	Mild	Medication	Recovery/ disappearance	No association	
	Dysmenorrhea	May 9	May 11	Mild	Medication	Recovery/ disappearance	No association	
56037	Joint pain	May 2	May 5	Mild	Medication	Recovery/ disappearance	No association	
56829	Headache	April 27	April 28	Mild	Medication	Recovery/ disappearance	No association	
56868	Diarrhea	May 8	May 9	Mild	Medication	Recovery/ disappearance	No association	
57336	Dysmenorrhea	April 15	April 18	Mild	Medication	Recovery/ disappearance	No association	
		May 7	May 9	Mild	Medication	Recovery/ disappearance	No association	
57850	Common cold	April 27	April 30	Mild	Medication	Recovery/ disappearance	No association	
58000	Constipation	April 5	April 9	Mild	Medication	Recovery/ disappearance	No association	
		April 12	April 23	Mild	Medication	Recovery/ disappearance	No association	
		April 27	May 1	Mild	Medication	Recovery/ disappearance	No association	
			May 1	May 5	Mild	Medication	Recovery/ disappearance	No association
			May 10	May 11	Mild	Medication	Recovery/ disappearance	No association
			May 13	May 14	Mild	Medication	Recovery/ disappearance	No association
		Oral mucositis	April 6	April 11	Mild	Medication	Recovery/ disappearance	No association
58102	Intestines	April 21	April 24	Mild	Medication	Recovery/ disappearance	No association	
		April 25	May 1	Mild	Medication	Recovery/ disappearance	No association	
		May 3	May 8	Mild	Medication	Recovery/ disappearance	No association	
	Hay fever	April 10	April 12	Mild	Medication	Recovery/ disappearance	No association	
	Gastroenteritis	April 10	April 12	Mild	Medication	Recovery/ disappearance	No association	

Appendix 8. Physical parameters during the study (FAS and SAF).

Parameter	Baseline					4 weeks					8 weeks					12 weeks				
	Placebo group (n = 96)		Intervention group (n = 98)		P value	Placebo group (n = 96)		Intervention group (n = 98)		P value	Placebo group (n = 95)		Intervention group (n = 97)		P value	Placebo group (n = 95)		Intervention group (n = 95)		P value
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
Systolic blood pressure (mmHg)	123.7	14.8	125.0	13.9	0.542	121.0	13.2	126.0	16.6	0.021*	120.7	14.1	126.3	15.7	0.011*	122.8	13.7	125.3	14.4	0.212
Diastolic blood pressure (mmHg)	81.4	11.4	82.7	11.7	0.438	80.4	10.6	82.1	11.6	0.292	79.2	10.7	82.0	12.1	0.086	80.9	11.0	82.5	11.1	0.318
Pulse rate (bpm)	72.8	9.8	73.9	9.0	0.407	73.4	9.2	74.3	10.2	0.528	74.2	9.9	73.6	10.0	0.691	73.0	9.9	74.1	9.5	0.429
Body temperature (°C)	35.8	1.1	35.8	1.0	0.841	36.2	0.3	36.2	0.3	0.777	36.3	0.2	36.3	0.2	0.388	36.3	0.2	36.3	0.2	0.902

Data are presented as the mean \pm SD and were compared between the two groups using the Student's t-test.

* $P < 0.05$.

Appendix 9. Hematological and biochemical parameters during the study (FAS and SAF).

Parameter	Criteria	Baseline						4 weeks						8 weeks						12 weeks					
		Placebo group (n = 96)		Intervention group (n = 98)		P value	Placebo group (n = 96)		Intervention group (n = 98)		P value	Placebo group (n = 95)		Intervention group (n = 97)		P value	Placebo group (n = 95)		Intervention group (n = 95)		P value				
		Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD					
WBC (x10 ⁹ /L)	3300-9000	6006.3	1336.4	5857.1	1475.6	0.462	6126.0	1436.1	5766.3	1453.1	0.085	6107.4	1502.6	5652.6	1231.4	0.023 ^b	5914.7	1399.5	5686.3	1321.4	0.249				
RBL (x10 ⁷ /μL)	Male, 430-570 Female, 380-500	482.9	44.4	477.6	38.7	0.377	480.9	45.0	471.5	37.7	0.118	475.0	46.1	468.0	40.9	0.264	472.1	46.1	467.4	38.1	0.448				
Hb (g/dL)	Male, 13.5-17.5 Female, 11.5-15.0	14.5	1.4	14.5	1.3	0.843	14.3	1.4	14.3	1.3	0.809	14.2	1.4	14.2	1.4	0.916	14.1	1.4	14.2	1.3	0.786				
Ht (%)	Male, 39.7-52.4 Female, 34.8-45.0	45.1	3.6	45.0	3.5	0.974	45.0	3.7	44.7	3.5	0.569	44.7	3.8	44.6	3.8	0.868	44.1	3.9	44.2	3.5	0.818				
PLT (x10 ⁹ /μL)	14.0-34.0	27.0	5.2	27.1	5.1	0.862	27.2	4.9	26.6	5.3	0.430	26.4	5.2	26.0	5.2	0.573	26.7	5.2	26.3	5.3	0.557				
MCV (fL)	85-102	93.5	5.0	94.4	4.0	0.197	93.9	4.9	95.0	4.2	0.100	94.3	4.8	95.4	4.1	0.089	93.6	4.7	94.6	4.2	0.122				
MCH (Pg)	28.0-34.0	30.1	1.9	30.5	1.7	0.129	29.8	1.9	30.3	1.7	0.067	30.0	1.9	30.4	1.7	0.165	29.9	1.9	30.3	1.8	0.153				
MCHC (%)	30.2-35.1	32.2	1.0	32.3	1.0	0.458	31.8	1.1	31.9	1.0	0.410	31.8	1.1	31.8	1.1	0.896	32.0	1.1	32.0	1.0	0.816				
NEUT (%)	40.0-75.0	59.4	8.2	57.9	7.5	0.178	59.2	8.2	57.6	8.1	0.178	59.1	8.8	57.2	7.8	0.114	58.7	8.1	57.4	7.8	0.241				
LYMP (%)	18.0-49.0	31.2	7.9	32.9	6.9	0.117	31.8	8.0	33.2	7.5	0.226	32.0	8.3	33.5	7.4	0.168	32.2	7.6	33.5	7.5	0.236				
MONO (%)	2.0-10.0	5.5	1.3	5.6	1.3	0.665	5.5	1.2	5.6	1.5	0.343	5.5	1.4	5.7	1.3	0.292	5.6	1.3	5.6	1.4	0.956				
EOS (%)	0-8.0	3.0	2.2	2.8	1.9	0.551	2.8	1.8	2.9	2.1	0.736	2.6	1.6	2.7	1.8	0.602	2.7	1.8	2.8	1.7	0.731				
BASO (%)	0-2.0	0.9	0.4	0.8	0.3	0.346	0.8	0.4	0.8	0.3	0.310	0.8	0.3	0.8	0.3	0.922	0.8	0.4	0.8	0.4	0.768				
AST (U/L)	10-40	23.3	7.2	22.9	8.6	0.691	23.0	7.3	22.3	7.6	0.494	21.8	5.9	22.1	9.2	0.780	23.1	8.4	21.9	8.0	0.281				
ALT (U/L)	5-45	26.4	14.4	25.6	15.7	0.689	26.0	17.2	24.2	15.1	0.440	23.4	12.5	23.3	15.5	0.936	23.4	12.4	22.5	14.8	0.656				
γ-GT (U/L)	Male, <80 Female, <30	39.2	39.2	35.8	30.0	0.499	38.8	34.3	35.4	32.3	0.485	34.5	26.8	34.9	32.3	0.939	33.0	24.9	32.9	31.8	0.980				
ALP (U/L)	100-325	209.1	60.1	213.2	56.3	0.623	73.6	20.5	73.6	19.2	0.986	72.7	19.6	73.3	17.2	0.830	72.5	20.3	73.2	18.5	0.808				
LD (U/L)	120-240	192.1	27.9	191.5	28.4	0.889	195.3	26.7	202.3	72.2	0.372	196.6	29.7	196.9	27.5	0.943	203.3	26.0	200.5	29.2	0.493				
LAP (U/L)	Male, 45-81 Female, 37-61	54.6	12.5	54.9	15.8	0.886	54.3	11.7	54.2	13.2	0.943	54.0	10.1	54.2	11.3	0.905	53.2	10.8	52.8	11.7	0.792				
T-BIL (mg/dL)	0.2-1.2	0.8	0.3	0.8	0.3	0.853	0.8	0.2	0.8	0.3	0.766	0.8	0.3	0.8	0.3	0.651	0.8	0.3	0.8	0.3	0.682				
D-BIL (mg/dL)	0-0.2	0.1	0.0	0.1	0.0	0.427	0.1	0.1	0.1	0.1	0.212	0.1	0.0	0.1	0.1	0.058	0.1	0.1	0.1	0.1	0.681				
I-BIL (mg/dL)	0.2-1.0	0.7	0.2	0.7	0.3	0.958	0.7	0.2	0.7	0.3	0.948	0.7	0.3	0.7	0.3	0.888	0.7	0.3	0.7	0.3	0.587				
ChE (U/L)	Male, 234-493 Female, 200-452	371.3	68.3	371.5	64.7	0.984	366.8	66.6	362.3	64.5	0.637	362.5	68.8	356.2	63.2	0.511	358.7	71.2	352.6	62.4	0.530				
TP (g/dL)	6.7-8.3	7.2	0.4	7.2	0.3	0.267	7.2	0.3	7.2	0.4	0.783	7.2	0.4	7.2	0.4	0.721	7.2	0.4	7.3	0.4	0.276				
BUN (mg/dL)	8.0-20.0	13.8	3.4	12.8	3.5	0.065	13.6	3.1	13.2	3.3	0.417	13.4	3.5	12.9	2.9	0.303	13.1	3.1	12.3	2.7	0.038*				
Cre (mg/dL)	Male, 0.61-1.04 Female, 0.47-0.79	0.8	0.2	0.7	0.1	0.918	0.8	0.2	0.8	0.1	0.698	0.8	0.2	0.8	0.1	0.769	0.8	0.2	0.8	0.1	0.753				
UA (mg/dL)	Male, 3.8-7.0 Female, 2.5-7.0	5.4	1.4	5.5	1.4	0.584	5.3	1.2	5.5	1.4	0.285	5.4	1.2	5.6	1.4	0.303	5.4	1.3	5.5	1.4	0.647				
CK (U/L)	Male, 60-270 Female, 40-150	118.9	83.7	121.6	102.9	0.838	122.3	70.8	114.7	74.4	0.470	127.0	100.2	137.4	264.4	0.721	131.6	85.5	117.9	82.0	0.261				
Na (mEq/L)	137-147	140.7	1.5	140.8	1.6	0.771	141.1	1.9	141.1	1.8	0.995	141.1	1.8	141.0	1.5	0.755	141.2	1.6	141.0	1.5	0.277				
K (mEq/L)	3.5-5.0	4.2	0.4	4.1	0.3	0.132	4.1	0.3	4.1	0.4	0.879	4.0	0.3	3.9	0.3	0.207	4.0	0.3	4.0	0.3	0.229				
Cl (mEq/L)	98-108	101.7	1.9	101.6	1.9	0.706	101.4	1.9	101.5	2.0	0.939	101.5	2.1	101.6	1.8	0.558	101.9	1.9	101.6	1.7	0.234				
Ca (mg/dL)	8.4-10.4	9.4	0.3	9.4	0.3	0.290	9.4	0.3	9.4	0.3	0.937	9.3	0.3	9.3	0.3	0.718	9.2	0.3	9.3	0.3	0.680				
IP (mg/dL)	2.5-4.5	3.3	0.5	3.2	0.5	0.565	3.5	0.7	3.4	0.6	0.498	3.7	0.7	3.6	0.6	0.596	3.4	0.6	3.3	0.5	0.607				
Fe (μg/dL)	Male, 50-200 Female, 40-180	104.6	38.2	108.8	42.3	0.468	101.6	33.6	105.6	37.3	0.435	108.3	37.6	109.5	38.2	0.834	109.6	36.0	107.0	37.0	0.628				
AMY (U/L)	40-122	78.5	24.7	74.8	22.2	0.279	76.8	25.8	74.3	23.0	0.481	73.5	21.3	74.2	23.2	0.828	72.9	19.4	72.1	20.0	0.771				
Glucose (mg/dL)	70-109	88.5	12.7	87.7	9.9	0.636	87.7	9.6	87.4	10.7	0.859	87.9	9.5	88.1	11.3	0.879	89.0	13.5	88.2	8.7	0.637				
HbA1c (NCSP) (%)	4.6-6.2	5.4	0.4	5.5	0.4	0.363	5.4	0.4	5.5	0.4	0.800	5.4	0.4	5.5	0.4	0.436	5.4	0.4	5.4	0.3	0.985				
GA (%)	12.3-16.5	12.8	1.5	12.7	1.2	0.560	12.7	1.5	12.7	1.3	0.816	13.0	1.5	12.9	1.1	0.663	12.9	1.5	12.9	1.1	0.707				

Data are presented as the mean ± SD and were compared between the two groups using the Student's *t*-test.

* *P* < 0.05.

Appendix 10. Distribution of the number of participants outside the reference value (FAS and SAF).

Parameter	Baseline				4 weeks				8 weeks				12 weeks							
	Placebo group (n = 96)		Intervention group (n = 98)		P value	Placebo group (n = 96)		Intervention group (n = 98)		P value	Placebo group (n = 95)		Intervention group (n = 97)		P value	Placebo group (n = 95)		Intervention group (n = 95)		P value
	Inside	Outside	Inside	Outside		Inside	Outside	Inside	Outside		Inside	Outside	Inside	Outside		Inside	Outside	Inside	Outside	
WBC	92	4	94	4	1.000	90	6	93	5	0.766	89	6	95	2	0.167	90	5	94	1	0.211
RBC	84	12	93	5	0.079	86	10	91	7	0.457	87	8	92	5	0.404	86	9	87	8	1.000
Hb	88	8	93	5	0.404	89	7	93	5	0.566	85	10	90	7	0.456	86	9	90	5	0.406
Ht	83	13	88	10	0.512	80	16	85	13	0.550	81	14	85	12	0.677	82	13	87	8	0.355
PLT	87	9	91	7	0.611	86	10	92	6	0.308	84	11	91	6	0.213	88	7	89	6	1.000
MCV	89	7	93	5	0.566	88	8	91	7	0.794	88	7	91	6	0.781	90	5	89	6	1.000
MCH	88	8	92	6	0.591	87	9	88	10	1.000	85	10	88	9	0.813	86	9	85	10	1.000
MCHC	93	3	96	2	0.681	91	5	93	5	1.000	89	6	91	6	1.000	92	3	90	5	0.721
NEUT	94	2	97	1	0.619	93	3	95	3	1.000	91	4	95	2	0.442	91	4	95	0	0.121
LYMP	93	3	95	3	1.000	93	3	95	3	1.000	89	6	95	2	0.167	90	5	94	1	0.211
MONO	95	1	98	0	0.495	96	0	97	1	1.000	94	1	96	1	1.000	95	0	94	1	1.000
EOS	91	5	96	2	0.276	95	1	95	3	0.621	95	0	95	2	0.497	94	1	95	0	1.000
BASO	94	2	98	0	0.244	95	1	98	0	0.495	95	0	97	0	N.A.	95	0	95	0	N.A.
AST	91	5	93	5	1.000	92	4	96	2	0.442	95	0	95	2	0.497	93	2	92	3	1.000
ALT	87	9	88	10	1.000	87	9	93	5	0.280	87	8	92	5	0.404	87	8	91	4	0.372
γ-GT	71	25	78	20	0.397	74	22	82	16	0.280	76	19	82	15	0.453	77	18	84	11	0.226
ALP	90	6	95	3	0.328	88	8	92	6	0.591	88	7	95	2	0.099	89	6	92	3	0.497
LD	91	5	93	5	1.000	85	11	81	17	0.308	82	13	82	15	0.839	73	22	78	17	0.473
LAP	83	13	85	13	1.000	83	13	85	13	1.000	84	11	84	13	0.828	83	12	81	14	0.833
T-BIL	89	7	88	10	0.613	93	3	92	6	0.498	90	5	84	13	0.081	86	9	90	5	0.406
D-BIL	96	0	98	0	N.A.	95	1	96	2	1.000	94	1	95	2	1.000	93	2	94	1	1.000
I-BIL	89	7	87	11	0.459	91	5	91	7	0.767	87	8	83	14	0.258	84	11	89	6	0.309
ChE	89	7	91	7	1.000	91	5	92	6	1.000	90	5	91	6	1.000	89	6	92	3	0.497
TP	86	10	94	4	0.103	90	6	93	5	0.766	85	10	87	10	1.000	87	8	91	4	0.372
BUN	90	6	85	13	0.146	92	4	92	6	0.747	85	10	94	3	0.048*	92	3	90	5	0.721
Cre	90	6	90	8	0.783	88	8	93	5	0.404	89	6	91	6	1.000	89	6	88	7	1.000
UA	83	13	83	15	0.839	85	11	83	15	0.529	83	12	80	17	0.421	84	11	81	14	0.668
CK	88	8	91	7	0.794	90	6	94	4	0.535	86	9	90	7	0.611	82	13	88	7	0.237
Na	96	0	98	0	N.A.	95	1	97	1	1.000	95	0	97	0	N.A.	94	1	95	0	1.000
K	94	2	96	2	1.000	94	2	95	3	1.000	90	5	95	2	0.276	93	2	91	4	0.682
Cl	93	3	97	1	0.366	94	2	96	2	1.000	93	2	96	1	0.619	93	2	93	2	1.000
Ca	96	0	98	0	N.A.	95	1	98	0	0.495	95	0	97	0	N.A.	93	2	95	0	0.497
IP	93	3	92	6	0.498	89	7	96	2	0.099	83	12	89	8	0.353	86	9	89	6	0.592
Fe	90	6	88	10	0.435	91	5	89	9	0.407	90	5	89	8	0.568	90	5	88	7	0.767
AMY	88	8	90	8	1.000	89	7	89	9	0.795	91	4	88	9	0.250	92	3	90	5	0.721
glucose	89	7	95	3	0.211	90	6	94	4	0.535	91	4	91	6	0.747	89	6	93	2	0.279
HbA1c (NGSP)	91	5	94	4	0.746	92	4	93	5	1.000	92	3	93	4	1.000	90	5	93	2	0.444
GA	59	37	66	32	0.454	51	45	60	38	0.310	60	35	64	33	0.763	61	34	67	28	0.439

Data represent the number of applicable subjects; they were compared between the two groups using the χ^2 test.

N. A., Not Available.

* $P < 0.05$.

Appendix 11. Parameters of the urine test during the study (FAS and SAF).

Parameter	Criteria	Baseline		P value		4 weeks		P value		8 weeks		P value		12 weeks		P value					
		Placebo group (n = 96)		Intervention group (n = 98)		Placebo group (n = 96)		Intervention group (n = 98)		Placebo group (n = 95)		Intervention group (n = 97)		Placebo group (n = 95)		Intervention group (n = 95)					
		Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside				
Protein	(-)	94	2	86	12	0.010*	89	7	89	9	0.795	88	7	89	8	1.000	88	7	88	7	1.000
Sugar	(-)	96	0	97	1	1.000	96	0	97	1	1.000	94	1	96	1	1.000	93	2	94	1	1.000
Urobilinogen	(±)	96	0	97	1	1.000	96	0	98	0	N. A.	95	0	97	0	N. A.	95	0	94	1	1.000
Bilirubin	(-)	96	0	98	0	N. A.	96	0	98	0	N. A.	95	0	97	0	N. A.	95	0	95	0	N. A.
pH	5.0-7.5	95	1	96	2	1.000	95	1	96	2	1.000	92	3	96	1	0.366	94	1	94	1	1.000
Hidden blood	(-)	90	6	91	7	1.000	90	6	89	9	0.593	88	7	89	8	1.000	88	7	82	13	0.237
Ketone body	(-)	96	0	97	1	1.000	95	1	97	1	1.000	92	3	96	1	0.366	93	2	93	2	1.000

Data represent the number of applicable subjects; they were compared between the two groups using the χ^2 test.

N. A., Not Available.

* $P < 0.05$.