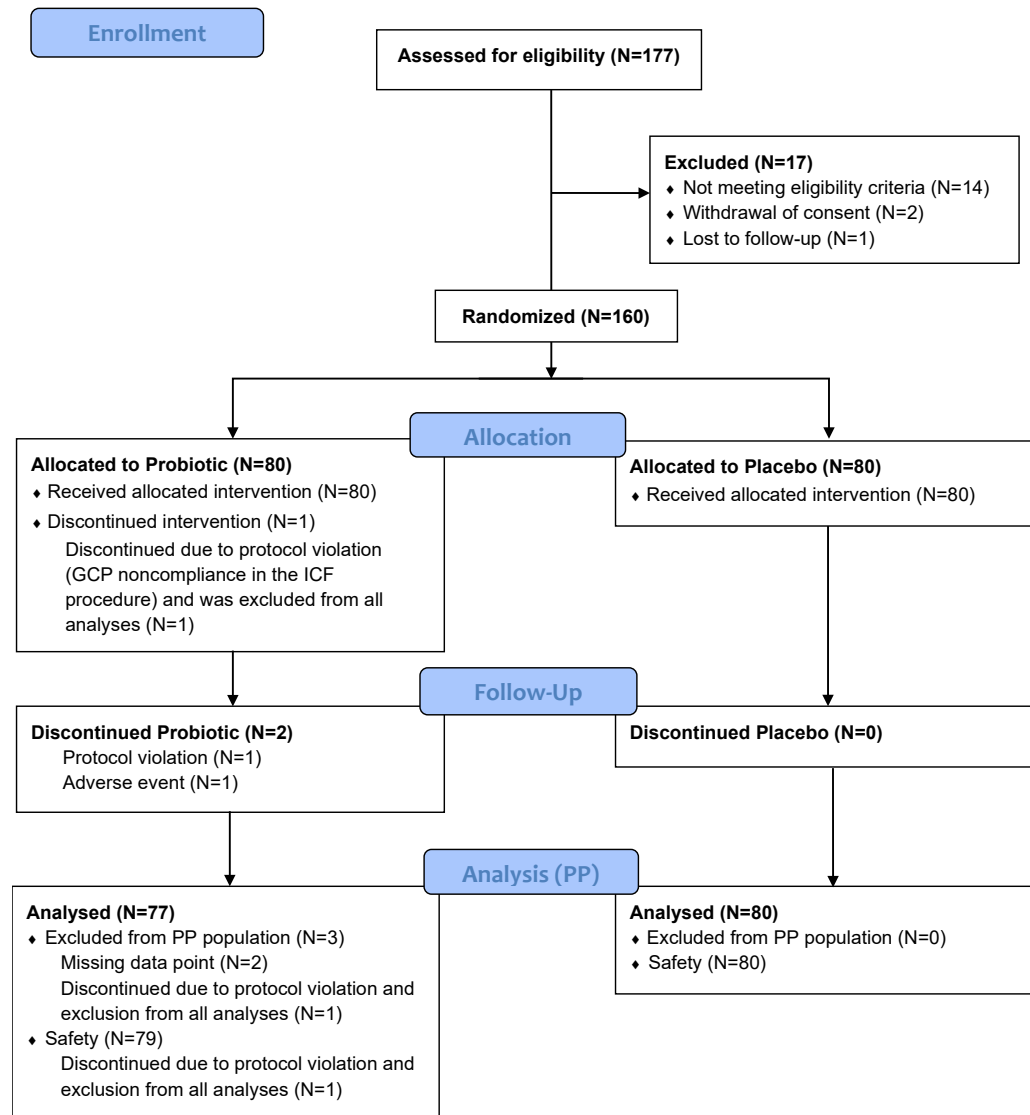


Participant flow



Baseline characteristics

Variable		Statistic	Probiotic (n=77)	Placebo (n=80)
Age (years)		Mean±SD	49.14±6.71	49.75±5.91
Female sex		n (%)	77 (100)	80 (100)
Wrinkle parameter	Average depth of wrinkles (µm)	Mean±SD	43.37±10.72	42.07±10.79
	Mean depth biggest wrinkle (µm)	Mean±SD	61.55±17.94	58.90±19.68
	Max. depth biggest wrinkle (µm)	Mean±SD	177.64±66.52	174.33±76.26
	Total wrinkle area (mm ²)	Mean±SD	42.23±0.30	42.26±0.31
	Total wrinkle volume (mm ³)	Mean±SD	1.83±0.46	1.78±0.47
	Total length of wrinkles (mm)	Mean±SD	103.83±13.06	104.29±13.37
	Ra (µm)	Mean±SD	22.14±5.05	21.70±5.17
	Ry (µm)	Mean±SD	342.57±87.88	330.75±99.93
	Rz (µm)	Mean±SD	264.22±55.57	256.02±63.03
Hydration by corneometer	Cheek (A.U.)	Mean±SD	44.34±2.91	44.69±2.20
	Forearm (A.U.)	Mean±SD	36.01±8.28	36.61±6.97
	Hand (A.U.)	Mean±SD	37.01±8.12	37.54±7.46
Hydration by moisturemeter	Cheek (A.U.)	Mean±SD	43.14±2.27	43.00±3.29
	Forearm (A.U.)	Mean±SD	33.01±3.28	32.54±3.13
	Hand (A.U.)	Mean±SD	40.27±3.62	39.59±4.39

Outcome measures

1. Skin wrinkles around crow's feet measured with PRIMOS® imaging technology at baseline and 4, 8 and 12 weeks.

Parameter	Time point	Probiotic (n=77)		Placebo (n=80)		<i>p</i> -value ²
		Mean±SD	<i>p</i> -value ¹	Mean±SD	<i>p</i> -value ¹	
Average depth of wrinkles (µm)	Baseline	43.37±10.72	-	42.07±10.79	-	0.449
	4 Weeks	39.26±10.52	3.88X10 ^{-6*}	38.68±9.50	5.58X10 ^{-6**w}	0.476
	8 Weeks	39.53±9.94	7.88X10 ^{-7*}	38.02±9.14	2.26X10 ^{-8**w}	0.829
	12 Weeks	40.18±9.29	3.18X10 ^{-5*}	38.72±9.34	3.14X10 ^{-6**w}	0.870
Mean depth biggest wrinkle (µm)	Baseline	61.55±17.94	-	58.90±19.68	-	0.378
	4 Weeks	57.09±20.34	0.032*	54.15±18.57	1.15X10 ^{-4*}	0.905
	8 Weeks	55.69±19.56	0.003*	53.31±17.69	4.33X10 ^{-6*}	0.899
	12 Weeks	57.97±19.17	0.056	54.82±18.46	0.001*	0.824
Max. depth biggest wrinkle (µm)	Baseline	177.64±66.52	-	174.33±76.26	-	0.771
	4 Weeks	165.38±72.37	0.110	160.45±68.88	0.005*	0.856
	8 Weeks	159.20±64.76	0.008*	150.83±62.51	5.01X10 ^{-5*}	0.559
	12 Weeks	166.38±67.96	0.132	153.44±63.15	1.13X10 ^{-4*}	0.283
Total wrinkle area (mm ²)	Baseline	42.23±0.30	-	42.26±0.31	-	0.534
	4 Weeks	42.19±0.28	0.149	42.17±0.31	0.001*	0.262
	8 Weeks	42.17±0.29	0.078	42.14±0.33	1.02X10 ^{-4**}	0.122
	12 Weeks	42.20±0.28	0.304	42.10±0.40	0.001*	0.025*
Total wrinkle volume (mm ³)	Baseline	1.83±0.46	-	1.78±0.47	-	0.465
	4 Weeks	1.66±0.45	3.43X10 ^{-6*}	1.63±0.41	5.19X10 ^{-6**w}	0.487
	8 Weeks	1.67±0.43	8.08X10 ^{-7*}	1.60±0.39	2.08X10 ^{-8**w}	0.778
	12 Weeks	1.70±0.40	2.63X10 ^{-5*}	1.63±0.40	2.67X10 ^{-6**w}	0.831
Total length of wrinkles (mm)	Baseline	103.83±13.06	-	104.29±13.37	-	0.829
	4 Weeks	106.32±12.62	0.006*	106.01±12.70	0.027*	0.512
	8 Weeks	107.10±12.43	1.67X10 ^{-4*}	107.39±12.35	7.14X10 ^{-5*}	0.876
	12 Weeks	107.08±11.61	1.96X10 ^{-4*}	106.50±12.69	0.004*	0.353
Ra	Baseline	22.14±5.05	-	21.70±5.17	-	0.586

Parameter	Time point	Probiotic (n=77)		Placebo (n=80)		p -value ²
		Mean±SD	p -value ¹	Mean±SD	p -value ¹	
(μm)	4 Weeks	20.26±5.08	8.63X10 ^{-6*}	19.96±4.45	1.06X10 ^{-7*}	0.766
	8 Weeks	20.43±4.80	4.98X10 ^{-6*}	19.70±4.41	4.33X10 ^{-9*}	0.539
	12 Weeks	20.71±4.53	6.22X10 ^{-5*}	20.03±4.42	5.90X10 ^{-7*}	0.615
Ry (μm)	Baseline	342.57±87.88	-	330.75±99.93	-	0.433
	4 Weeks	319.47±105.68	0.012*	309.83±93.78	0.002*	0.845
	8 Weeks	322.52±117.90	0.098	302.29±81.77	2.06X10 ^{-4*}	0.546
Rz (μm)	12 Weeks	319.97±88.12	0.004*	306.13±90.22	2.65X10 ^{-4*}	0.838
	Baseline	264.22±55.57	-	256.02±63.03	-	0.249 ^M
	4 Weeks	243.76±60.33	8.32X10 ^{-6*}	242.33±58.53	4.20X10 ^{-4**w}	0.792 ^M
(μm)	8 Weeks	247.70±59.30	0.001*	235.56±51.14	3.41X10 ^{-6**w}	0.318 ^M
	12 Weeks	246.96±52.44	3.72X10 ^{-5*}	239.75±56.53	4.75X10 ^{-5**w}	0.291 ^M

¹ Significantly different at * p <0.05 compared with baseline by Repeated measures ANOVA

² Significantly different at * p <0.05 compared between test and control groups by Independent t -test (Baseline), and Repeated measures ANOVA (4, 8, 12 weeks) or ^M Mann Whitney U-test (Baseline, 4, 8, 12 weeks)

^w Wilcoxon Signed Ranks Test (Bonferroni correction)

Adverse events

Event	Probiotic (n=79)	Placebo (n=80)	Total (n=159)
Indigestion (gas in the stomach)	1	0	1
TOTAL	1	0	1