

1 **Supplementary Tables**

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3 Table S1. Upper limb muscle thickness parameters before and after 12 weeks of resistance exercise training.

	HEA (<i>n</i> =13)		BCS (<i>n</i> =11)		STATISTICS (<i>P</i> -value)		
	PRE	POST	PRE	POST	Time	Time × Group	Group
Triceps brachii thickness (cm)	1.49±0.4	1.46±0.3	1.37±0.2	1.42±0.2	0.903	0.505	0.444
Brachii biceps thickness (cm)	2.94±0.3	2.98±0.4	2.87±0.4	2.96±0.3	0.250	0.630	0.736

Data presented as mean±SD. HEA: Healthy group; BCS: breast cancer survivors group. Data were analyzed using repeated measures ANOVA (time x group).

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14 Table S2. Dietary intake before and at the end (week 11) of 12-week resistance exercise training.

	HEA (<i>n</i> =13)		BCS (<i>n</i> =11)		<i>P</i> -value		
	Before	Week-11	Before	Week-11	Time	Time x Group	Group
Energy (Kcal/d)	1494.1±424.4	1527.2±453.8	1724.5±328.2	1684.6±309.1	0.980	0.790	0.136
Protein (g/d)	55.1±8.6	56.8±12.7	54.6±11.6	63.9±14.1	0.168	0.330	0.441
Protein (g/kg BW·d ⁻¹)	0.81±0.2	0.89±0.3	0.71±0.2	0.86±0.2	0.108	0.640	0.571
Carbohydrates (g/kg BW·d ⁻¹)	3.3±0.6	2.6±0.6	2.5±0.4	2.8±0.7	0.569	0.062	0.149
Fat (g/kg BW·d ⁻¹)	0.88±0.2	0.86±0.2	0.77±0.1	1.0±0.3	0.108	0.076	0.748

Data presented as mean±SD. BW: body weight; Data were analyzed using repeated measures ANOVA (time x group).

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Table S3. Physical activity before and at the end (week 11) of 12-week resistance exercise training.

	HEA (<i>n</i> =13)		BCS (<i>n</i> =11)		<i>P</i> -Value		
	Before	Week-11	Before	Week-11	Time	Time x Group	Group
Vigorous physical activity level (MET min/week)	575±980	1700±1967	390±724	1680±1534	0.009	0.845	0.840
Moderate physical activity level (MET min/week)	3463±530	3240±298	1163±145	1130±272	0.979	0.060	0.880
Sedentary Behavior (min/day)	329±186	261±155	319±273	287±187	0.271	0.687	0.921

Data presented as mean±SD. BW: body weight; Data were analyzed using repeated measures ANOVA (time x group). Bold numbers at the *P* < 0.05 level.

34 Table S4. Biochemical markers before and after 12 weeks of resistance exercise training.

	HEA (n=13)		BCS (n=11)		STATISTICS (P-value)		
	PRE	POST	PRE	POST	Time	Time × Group	Group
Cholesterol (mg/dL)	204.7±47.0	195.9± 40.7	204.4±29.7	197.7±32.0	0.222	0.866	0.963
HDL (mg/dL)	50.0±8.1	46.7±9.5	52.1±13.3	51.6±13.5	0.364	0.491	0.401
LDL (mg/dL)	129.8±49.9	121.9±40.7	123.7±36.9	121.6±34.5	0.437	0.646	0.841
TG (mg/dL)	124.5±48.4	136.4±67.3	142.8±63.4	121.8±33.0	0.733	0.229	0.920
Glucose (mg/dL)	96.94±12.8	94.1±6.9	96.4±5.2	96.9±10.1	0.586	0.419	0.709
Glucose (mmol/L)	5.4±0.7	5.2±0.4	5.4±0.3	5.4±0.6	0.584	0.421	0.708
Insulin (μUL/mL)	16.7±8.0	15.3±5.9	22.9±10.6	19.8±6.9	0.076	0.495	0.092
HOMA	4.0±2.1	3.6±1.4	5.6±2.8	4.8±2.0	0.080	0.710	0.096
GDF-15 (pg/mL)	584.9±65.1	574.3±63.6	584.9±65.1	594.1±36.9	0.568	0.228	0.903

Data presented as mean±SD. HEA: Healthy group; BCS: breast cancer survivors group; HDL: High density Lipoprotein; LDL: Low-density Lipoprotein; TG: Triglycerides; HOMA: Homeostasis Model Assessment; GDF-15: Growth and differentiation factor 15. Data were analyzed using repeated measures ANOVA (time × group).

Table S5. Correlation between GDF-15 and sarcopenia markers before and after (PRE and POST) 12 weeks of resistance exercise training.

GDF-15 PRE	HEA		BCS		Total	
Correlation	<i>R</i>	<i>P-value</i>	<i>R</i>	<i>P-value</i>	<i>R</i>	<i>P-value</i>
Lean body mass (%)	-0.183	0.590	-0.433	0.183	-0.290	0.190
Dominant Quadriceps thickness (cm)	-0.468	0.146	0.396	0.228	-0.075	0.741
1RM leg extension (kg)	-0.652*	0.030	-0.337	0.340	-0.439*	0.046
Walk speed (m/s)	-0.396	0.228	0.282	0.430	-0.075	0.745
GDF-15 POST	HEA		BCS		Total	
Correlation	<i>R</i>	<i>P-value</i>	<i>R</i>	<i>P-value</i>	<i>R</i>	<i>P-value</i>
Lean body mass (%)	-0.246	0.466	0.171	0.616	-0.181	0.420
Dominant Quadriceps thickness (cm)	-0.318	0.341	0.260	0.441	-0.175	0.436
1RM leg extension (kg)	-0.262	0.437	-0.218	0.520	-0.259	0.244
Walk speed (m/s)	-0.640*	0.034	-0.235	0.486	-0.419*	0.050

GDF-15: Growth differentiation factor-15; HEA: Healthy group; BCS: breast cancer survivors group; 1RM: 1-repetition maximum R: Pearson correlation; correlation is significant at the level *: $P < 0.05$ (bilateral). Bold numbers at the $P < 0.05$. level.

47 Table S6. Correlation between GDF-15 and sarcopenia markers before and after (DELTA) 12 weeks of
 48 resistance exercise training.

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GDF-15	PRE-POST RET	
Correlation	<i>R</i>	<i>P</i>
Body lean percent (%)	-0.239	0.285
Dominant Quadriceps thickness (cm)	0.170	0.449
1RM leg extension (kg)	-0.271	0.222
Walk speed (m/s)	0.022	0.922

GDF-15: Growth differentiation factor-15; RET: Resistance exercise training; 1RM: 1-repetition maximum R: Pearson correlation; correlation is significant at the level *: $P < 0.05$ (bilateral). Bold numbers at the $P < 0.05$ level.