

Anthropometric changes in female participants in the combined aerobic and resistance training program longer than one year: A cohort study

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Background

- To analyze the anthropometric changes in women who had participated in the combined resistance and aerobic training program for more than a year and to determine the effect of exercise on weight loss.

Methods

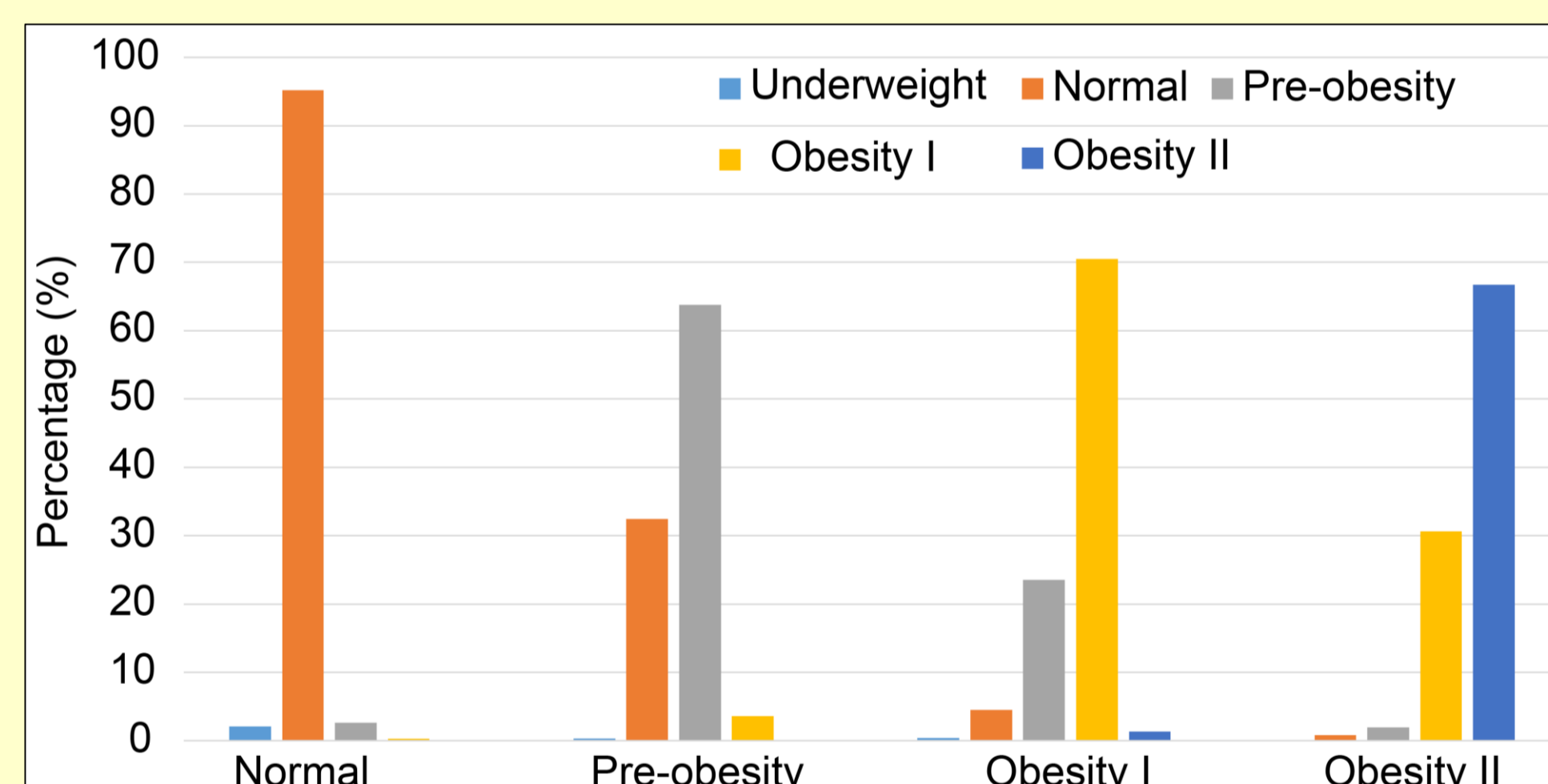
- A total of 9,128 women aged between 20 and 60 years who had registered in the Curves program, which employs a combination of resistance and aerobic training exercises, longer than one year were included in our analysis. The women were divided into groups according to exercise frequency: <1day/week, 1day/week, 2days/week, and ≥3days/week. Weight and waist circumference were measured at the beginning and end of the follow-up period.

Results

- The average follow-up duration was 625.3±151.2 days. Waist circumference and bodyweight decreased in proportion to the frequency of exercise participation. The achievement of more than 5% weight reduction was observed to be high in proportion to the frequency of exercise participation in each group. The odds ratios of 5% weight reduction between the exercise groups were 1.47, 1.58, and 2.05 for the 1 day/week, 2 day/week, and ≥3 day/week groups, respectively.

Conclusions

- Women who had participated in the combined resistance and aerobic training program for more than a year had lost weight in a dose-response manner.



		<1 day/week (N=644)	1 day/week (N=2,618)	2 days/week (N=3,199)	≥ 3 days/week (N=2,667)	P-value
Age(years)						<0.001
	20~29	155 (24.1%)	474 (21.9%)	500 (15.6%)	267 (10.0%)	
	30~39	234 (36.3%)	720 (33.2%)	1022 (31.9%)	716 (26.8%)	
	40~49	172 (26.7%)	667 (30.8%)	1146 (35.8%)	1016 (38.1%)	
	50~59	83 (12.9%)	307 (14.2%)	531 (16.6%)	668 (25.0%)	
Area (metropolitan %)		269 (41.8%)	1081 (49.9%)	1573 (49.2%)	1254 (47.0%)	0.001
Profession						<0.001
	Homemaker	239 (37.1%)	934 (43.1%)	1,572 (49.1%)	1,594 (59.8%)	
	Worker	267 (41.5%)	860 (39.7%)	1119 (35.0%)	659 (24.7%)	
	Others	138 (21.4%)	374 (17.3%)	508 (15.9%)	414 (15.5%)	
Married		428 (66.5%)	1539 (71.0%)	2493 (77.9%)	2268 (85.0%)	<0.001
Anthropometrics						
	Height (cm)	160.8±5.0	160.4±4.9	160.2±5.2	159.9±5.2	<0.001
	Weight (kg)	61.4±10.1	59.8±9.1	59.9±8.9	60.2±8.6	0.001
	Waist circumference (cm)	82.3±9.9	80.5±9.3	80.9±8.9	81.1±8.8	<0.001
	Body mass index	23.7±3.7	23.2±3.4	23.4±3.3	23.5±3.2	0.001
Obesity class						<0.001
	Normal	331 (51.4%)	1,225 (56.5%)	1,699 (53.1%)	1,330 (49.9%)	
	Pre-obesity	115 (17.9%)	426 (19.6%)	716 (22.4%)	651 (24.4%)	
	Obesity I	156 (24.2%)	426 (19.6%)	657 (20.5%)	577 (21.6%)	
	Obesity II	42 (6.5%)	91 (4.2%)	127 (4.0%)	109 (4.1%)	
Abdominal obesity		343 (53.5%)	1007 (46.4%)	1558 (48.7%)	1329 (49.8%)	0.011