Poster presentation

Effects of ingesting a thermogenic/anti-inflammatory supplement while participating in a resistance training program on indices of body composition and metabolic, cardiovascular, muscular, and hemodynamic function in overweight females

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Background
Sedentary, healthy, overweight women (n = 40) participated in a full-body resistance training program 3 days/week. The study was performed in a randomized, double blind, placebo-controlled fashion.

Methods
Participants followed a structured, energy-restricted, low glycemic diet. Participants ingested either 250 mg of a thermogenic/anti-inflammatory supplement or a 250 mg placebo supplement. Body composition, performance variables, serum lipid variables, inflammation markers, obesity markers and GLUT4 values were obtained at week 0 and after weeks 4 and 8. Data were analyzed by repeated measures MANOVA and are presented as means ± SD. GLUT 4 values were analyzed by repeated measures ANOVA are presented as means ± SD.

Results
Body weight reduction was significant between weeks 0 and 8 for both groups (88.45 ± 19.33 vs. 86.26 ± 19.17, p = 0.000). BMI also had significant decreases in both groups between weeks 0 and 8 (33.21 ± 7.77 vs. 32.32 ± 7.76, p = 0.000). Fat mass decreased significantly for both groups between weeks 0 and 8 (37.88 ± 13.04 vs. 36.18 ± 12.47, p = 0.034). There was a significant decrease in waist

measurements for both groups between weeks 0 and 8 in both groups (36.54 ± 5.86 vs. 35.44 ± 5.67, p = 0.000). Relative leg press strength increased in both groups between weeks 0 and 8 (2.22 ± 0.62, p = 0.000). In addition, relative bench press strength increased in both groups between week 0 and 8 (0.38 ± 0.10 vs. 0.435 ± 0.11, p = 0.000). For serum lipid values, there was a significant time effect for TCHOL, LDL, and HDL. TCHOL decreased between weeks 0 and 8 (187.51 ± 26.45 vs. 173.97 ± 28.60, p = 0.004). LDL decreased between weeks 0 and 8 (111.62 ± 22.18 vs. 104.95 ± 23.81, p = 0.048). HDL decreased between weeks 0 and 8 (56.46 ± 10.67 vs. 51.82 ± 11.52, p = 0.009). For insulin resistance markers there was a significant time effect for insulin and HOMA IR values. Insulin decreased between week 0 and 8 (257.1 ± 229.7 vs. 179.3 ± 127.7, p = 0.023). HOMA IR decreased between week 0 and 8 (2.9 ± 2.5 vs. 2.1 ± 1.4, p = 0.044). Ghrelin significantly increased in the experimental group between week 0 and 8 (480.61 ± 197.58 vs. 551.46 ± 224.81, p = 0.007). Overall leptin concentrations decreased significantly between week 0 and 8 in both groups (21367.6 ± 10954.7 vs. 16794.7 ± 10966.3, p = 0.019). There was a mild trend for a decrease in adiponectin concentrations between week 0 and 4 (11380.51 ± 5234.17 vs. 10370.94 ± 4803.42, p = 0.081). In terms of inflammation markers ILIβ were all below detectable lev-

els. In addition, there were no significant effects for TNFα and IL6. GLUT4 data showed no significant effects. Caloric intake for both groups decreased significantly between week 0 and 8 (1820.73 ± 479.83 vs. 1279.45 ± 386.54, p = 0.000). Fat intake decreased significantly for both groups between weeks 0 and 8 (73.26 ± 21.19 vs. 43.69 ± 17.66, p = 0.000). Carbohydrate intake was reduced significantly in both groups between week 0 and 8 (222.92 ± 79.38 vs. 173.16 ± 58.23, p = 0.001). Sugar intake also decreased for both group significantly between week 0 and 8 (76.55 ± 44.49 vs. 53.48 ± 22.02, p = 0.004).

Conclusion

Results indicate that a full body resistance training program, in combination with an energy-restricted, low glycemic diet may help promote weight loss and strength gains.

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