2E08-1 Comparable effects of resistance- and aerobic-exercise on physical and mental health parameters in untrained middle-aged and older women

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Purpose: The effects of resistance training (RT) and aerobic exercise (AE) on physical and mental health parameters were compared in untrained middle-aged and older women. Methods: Thirty-two women were divided into RT (n=12), AE (11) and control (CN; 9). RT trained four exercises using own body weight as a load with slow maneuver four days per week and AE walked briskly, more than 10,000 steps/day four days per week. Body composition, bone health status (OSI and DPD), fitness and psychological items were measured at baseline and after 12 weeks of training.

Results and Discussion: RT showed significant changes in body fat mass, waist, hip and upper arm circumferences than in AE and CN. RT also showed significant changes in triceps fat thickness than in CN. RT and AE showed significant changes in abdominal and thigh fat thickness and in thigh circumference than in CN. RT showed significant changes in OSI and DPD than in CN. RT showed significant changes in everyday feelings and human relations than in AE and CN. It suggest that resistance training using body weight as a load was effective to improve physical and mental health status, and RT indicated different changes from walking exercise.

Key words: resistance training and aerobic exercise, physical and mental health parameters, middle-aged and older women

2E08-2 Effect of successive 6 days of hypoxic training on sprint training

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Purpose: The purpose of the present study was to determine the effect of successive 6 days of sprint training in hypoxia on anaerobic performance in sprinters.

Methods: Eighteen male college sprinters were randomly assigned to either normoxic training group (NOR, n=9, F⁰₂=20.9%) or hypoxic training group (HYPO, n=9, F⁰₂=14.5%). The subjects in both groups conducted strenuous sprint training for successive 6 days, consisting of 6·30s of repeated maximal pedaling. Before and after the training period, power output during repeated sprint test (10×6s maximal pedaling), and power output during 30s maximal pedaling test, and VO₂max were determined.

Results: The NOR group showed a significant increase in average power output during repeated sprint test after the training period (P < 0.05), whereas no change was observed in the HYPO group. VO₂max did not change significantly after the training period in either group. Both groups showed significant increases in time to exhaustion during VO₂max test (P < 0.05).

Conclusion: These results suggest that sprint training under moderate hypoxia in sprinters did not cause further increase in anaerobic and aerobic power output compared with the same training under normoxia.