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Impact of short-term aerobic interval training on maximal exercise in sedentary aged subjects.

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Abstract

BACKGROUND: Ageing is known to be associated with a decrease in peak oxygen consumption (VO2peak) and maximal tolerated power (MTP). Regular physical exercise is the most appropriate to improve aerobic capacity, but its effect still remained discussed in old people. DESIGN: The aim of this study was to determine whether a short interval training session would be associated with improvements in exercise efficiency in aged subjects in both genders. METHODS: In all, 19 women and 16 men (65.4 +/- 4.9 years) performed a cycle incremental exercise test before and after a 9-week period of aerobic interval training (twice a week, 30 min session where 6 x 4-min at the first ventilatory threshold alternated with 1-min at the second ventilatory threshold) with cycle ergometer. Minute ventilation (MV), O(2) uptake (VO(2)) and CO(2) output (VCO(2)) were measured breath-by-breath and by an open-circuit metabolic cart. RESULTS: Before training, maximal values of MV (MMV), VO2peak, heart rate, systolic blood pressure, MTP, blood lactate at MTP recovery and the power at the first (pVT(1)) and second ventilatory thresholds (pVT(2)) were higher in men compared with women. Nine weeks of interval training induced a significant increase in MMV, VO2peak, MTP, pVT(1) and pVT(2) and decrease in systolic blood pressure in the same way in men than in women, without any significant effect on their maximal heart rate values. CONCLUSIONS: These findings suggest that the age-related declines in aerobic index are attenuated by a short exercise interval training sessions in women and men.

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