

Aerobic Training Combined with Nutritional Guidance as an Effective Strategy for Improving Aerobic Fitness and Reducing BMI in Inactive Adults

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Abstract : Overweight and obesity can lead to numerous health problems, and inactive people are more often overweight and obese compared to physically active people. Even a moderate weight loss can improve cardiovascular and endocrine disease risk factors. The aim of the study was to examine to what extent overweight and obese adults starting up with two weekly intensive running sessions had an increase in aerobic capacity, reduction in BMI and waist circumference and changes in body composition after 33 weeks of training. An additional aim was to see if there were differences between participants who, in addition to training, also received lifestyle modification education, including practical cooking (nutritional guidance and training group (NTG =32)) compared to those who were not given any nutritional guidance (training group (TG=40)). 72 participants (49 women), mean age of 46.1 (\pm 10.4) were included. Inclusion Criteria: Previous untrained and inactive adults in all age groups, BMI \geq 25, desire to become fitter and reduce their BMI. The two weekly supervised training sessions consisted of 10 min warm up followed by 20 to 21 min effective interval running where the participants' heart rate were between 82 and 92% of hearth rate maximum. The sessions were completed with ten minutes whole body strength training. Measures of BMI, waist circumference (WC) and 3000m running time were performed at the start of the project (T1), after 15 weeks (T2) and at the end of the project (T3). Measurements of fat percentage, muscle mass, and visceral fat were performed at T1 and T3. Twelve participants (9 women) from both groups, who all scored around average on the 3000 m pre-test, were chosen to do a VO₂max test at T1 and T3. The NTG were given ten theoretical sessions (80 minutes each) and eight practical cooking sessions (140 minutes each). There was a significant reduction in bout groups for WC and BMI from T1 to T2. There was not found any further reduction from T2 to T3. Although not significant, NTG reduced their WC more than TG. For both groups, the percentage reduction in WC was similar to the reduction in BMI. There was a decrease in fat percentage in both groups from pre-test to post-test, whereas, for muscle mass, a small, but insignificant increase was observed for both groups. There was a decrease in 3000m running time for both groups from T1 to T2 as well as from T2 to T3. The difference between T2 and T3 was not statistically significant. The 12 participants who tested VO₂max had an increase of 2.86 (\pm 3.84) mlkg⁻¹ min⁻¹ in VO₂max and 3:02 min (\pm 2:01 min) reduction in running time over 3000 m from T1 until T3. There was a strong, negative correlation between the two variables. The study shows that two intensive running session in 33 weeks can increase aerobic fitness and reduce BMI, WC and fat percent in inactive adults. Cost guidance in addition to training will give additional effect.

Keywords : interval training, nutritional guidance, fitness, BMI

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