EFFECTS OF ENDURANCE AND STRENGTH TRAINING ON REGIONAL FAT DISTRIBUTION
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Excess in body fat is associated with increased risk for non-communicable diseases. Nowadays, regional distribution of adiposity, i.e., abdominal fat, is more related with increased risk for diabetes, cardiovascular diseases, some types of cancer and obesity (1). Exercise training is commonly known to be associated with body fat reduction (2). We aimed to test whether 10 weeks of endurance or strength training produce similar effects on body fat distribution.

Thirty, active males, agreed to participate in this study; however, only 23 finished the intervention. Subjects were randomly assigned to the strength group (S, n = 9), endurance group (E, n = 8) or control group (C, n = 6). Total body and regional fat (upper and lower extremities, trunk and abdominal) were assessed by dual energy X-ray absorptiometry (DXA), after the analysis of the whole body scan. Abdominal fat was calculated from a subregion placed between the iliac crest and the lower rib (CV < 4%). Kruskal-Wallis test was applied to test differences between groups, while Wilcoxon was used for intragroup differences (p < 0.05).

After the training period E reduced significantly its total, lower extremities, trunk and abdominal fat percentage with training by 7 to 22% (p < 0.05). Nevertheless, only abdominal fat percentage differed significantly when compared with C final values (17.4±4.4 vs. 23.2±5.1; p < 0.05). Significant differences between S and C in upper extremities, trunk and abdominal percentage of fat were found (15.7±2.9, 13.0±2.1 and 15.3±2.9 vs. 22.3±6.2; 18.0±4.5 and 23.2±5.1%, respectively, all p < 0.05) while no significant changes after the intervention were observed in S.

In conclusion, 10 weeks of endurance training seems to be efficient to decrease total and regional fat, particularly the abdominal fat that showed the highest reduction within the trunk region.


Keywords: Body Composition, Body Fatness