

AEROBIC PERFORMANCE AND MORPHOLOGICAL ADAPTATIONS AFTER A 4 MONTHS PHYSICAL ACTIVITY PROGRAM IN ELDERLY WOMEN

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1. INTRODUCTION

According to World Health Organization (WHO, 2001), the number of people aged over 65 will double over the next 50 years, therefore we can see new physical activity programs in order to make the population more active and healthy.

Research clearly shows that physical activity (PA) is an important factor to develop and maintain good health and adequate body functions in older people.

2. AIM

The purpose of this study was to determine (i) aerobic performance and (ii) morphological modifications after a 4 month physical activity program (PAP) in elderly

3. METHODS

Forty subjects divided in two groups: control (n=20; age = 67,6 ± 4 years) and experimental (n=20; age = 69,9 ± 6,2 years) were evaluated before and at the of 4-month-activity program. This program called “+ Age + Health” consisted of 3 sessions per week of one hour each, based on walking and aerobic exercises.

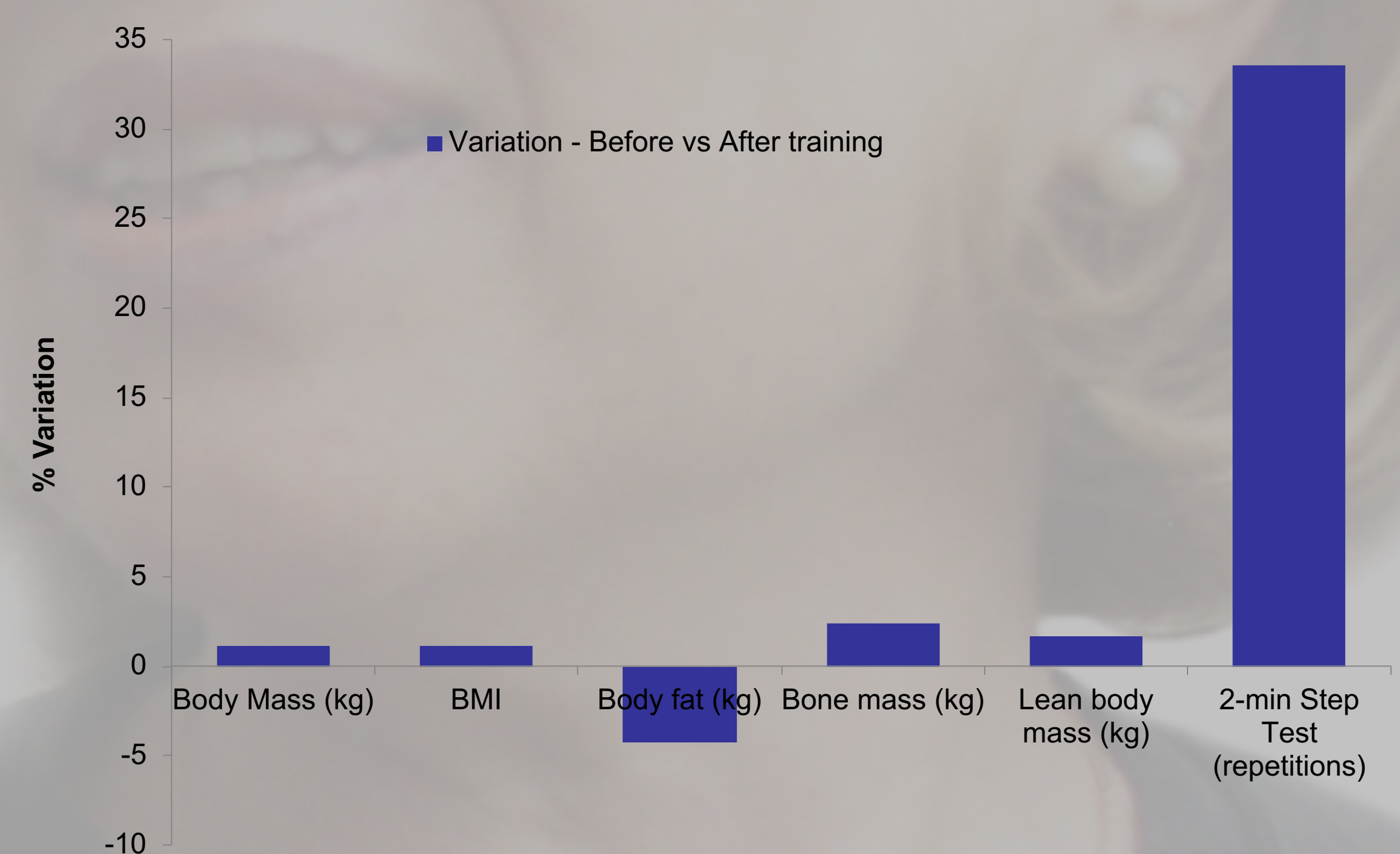
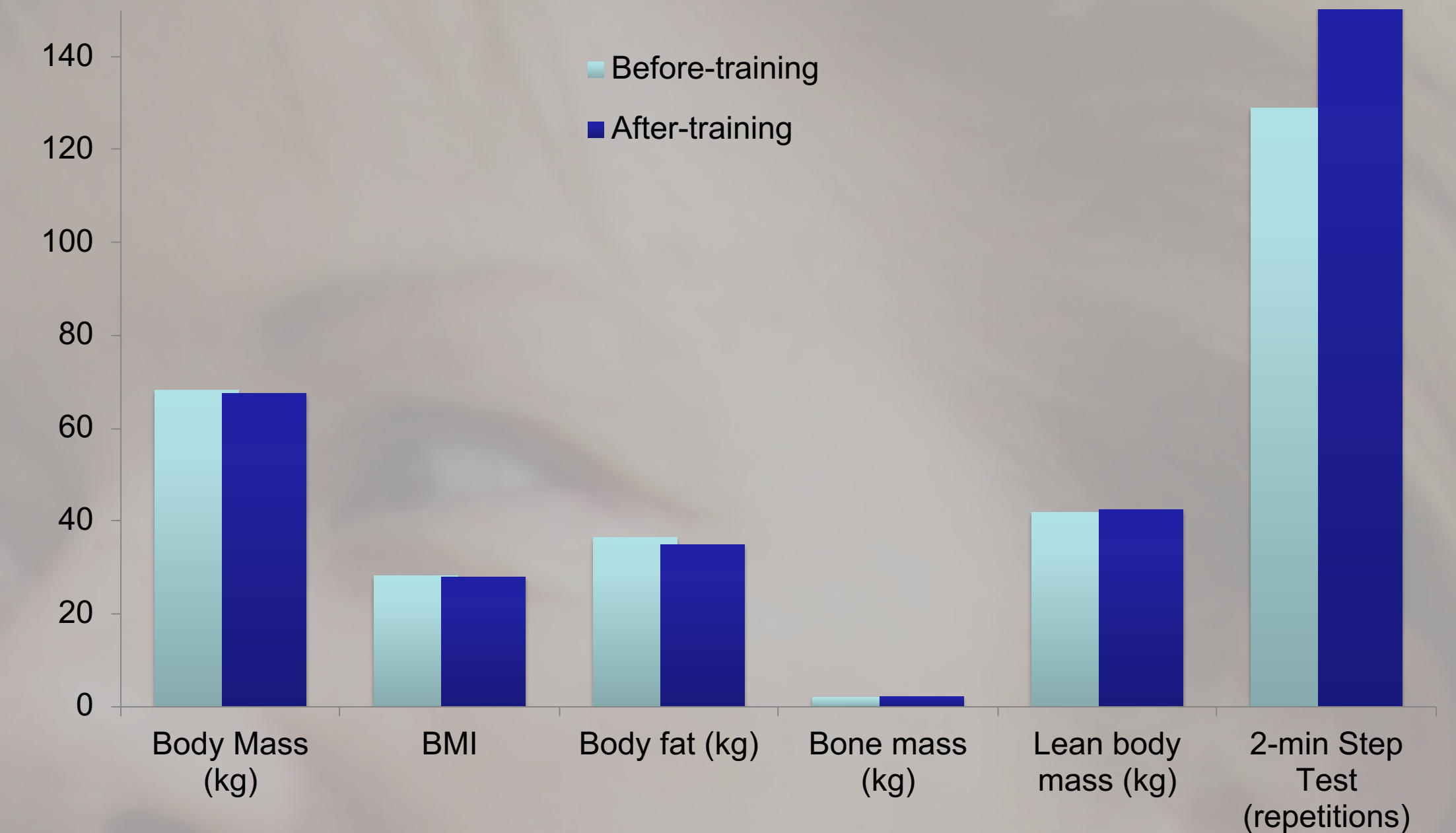
The assessment of anthropometric and morphological variables was measured through an electrical bio-impedance scale (TANITA - BC 545). Aerobic endurance was evaluated from a 2-Minutes Step Test (Senior Functional Fitness Test*).

We adopted the following statistical procedures: descriptive statistics (mean, standard deviation), t test and percentage variation.

4. FINDINGS

In the control group only the percentage of body fat (%BF) changed significantly, and increased over time. In the experimental group (EG) we found a positive relationship between Physical Activity Program (PAP) and the majority of morphological variables.

The percentage of variation were: in body fat (-4.3%±7.6, P=0.014), in bone mass (2.4%±3.1, P=0.004) and in 2MST (33.6%±63.1, P=0.023). In the remaining variables there were no significant modifications.



Experimental Group	Before-training	After-training	p ≤ 0,05
Body Mass (kg)	68,2 ± 14,5	67,5 ± 14,7	0,14
BMI	28,3 ± 4,5	28 ± 4,7	0,133
Body fat (kg)	36,5 ± 5,8	34,9 ± 5,7	0,014
Bone mass (kg)	2,2 ± 0,4	2,3 ± 0,4	0,004
Lean body mass (kg)	41,9 ± 8,7	42,5 ± 8,2	0,101
2-min step test (repetitions)	129,5 ± 45,9	152,9 ± 48,2	0,023

5. DISCUSSION & RESULT

The significant modification occurred in 2-Minuts Step Test after the activity training period. This mean that the aerobic performance can be improved in elderly, and attenuates the negative effects of aging process.

Moreover, the benefits of PAP can be seen by positive alterations registered in lean body mass and in the percentage of body fat.

5. BIBLIOGRAPHY

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