P2. Body Composition and hemodynamic profile of active adults and active older adults after 9 months of exercise

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INTRODUCTION

Sedentary lifestyles are increasingly prevalent in our society. Cardiovascular problems and increased body mass are prevalent in this type of lifestyle with greater incidence in advanced ages (Ford & Caspersen, 2012; INSEF, 2016; Kim, 2018). On the other hand physical exercise promotes clear benefits for this type of individuals' health (Chodzko-Zajko et al., 2009) so, our intention, with this study, is to analyse the effects of physical exercise on adults and elderly people, and to analyse if the age affects how the benefits occur. Prevention of cardiovascular disease through physical exercise is very important to avoid disease and decrease in the quality of life of older adults. The risk factors for this disease like high blood pressure, high cholesterol, overweight and obesity, diabetes mellitus, and physical inactivity can be changed through exercise (AHA, 2005; Chodzko-Zajko et al., 2009). As the main purpose of this study we intend to evaluate the effects of training and detraining during two years of an exercise program in blood pressure and resting heart rate of older adults.

METHODS

28 women were divided in two groups by age, (Group A: women between 45-55 years, N=12, 46.6 ± 4.5 years and 161.21± 11.37cm; Group B: women between 55-65 years, N=16, 63.4± 6.2 years and 158.54±13.53cm) who volunteered to participate in a 9 month combined exercise program. The component program was prescribed according to ACSM (Chodzko-Zajko et al., 2009) and conducted by a specialist in adults and older adults training. Each training period consisted in aerobic and muscle endurance group sessions held two days per week with forty-five minutes each session. All subjects were tested 4 times, in the start of the program and each 3 months after every evaluation. Each evaluation consisted in a blood pressure test to access systolic and diastolic blood pressure, and a body fat mass was assessed using bioelectrical impedance.

RESULTS

Body fat percentage (BF%) improved in all assessment moments in group A. Blood pressure improved after the end of the program but was not statistically significant in both groups.

	E-01		E-02		E-03		E-04	
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
Weight (Kg)[1,2]	68.76±7.56	72.32±8.63	69.64±6.45*	72.87±7.89	68,87±5.45	72.66±7.95	68.93±8.7	71.97.2±8.23
BF% (%)	37.32±3.96	39.67±4.61	34,87±3.15*	38.16±3.97	33.66±4.21*	36.29±4.14*	33.58±3.42**	36.54±4.61**
Systolic P (mmHg)[2]	136±12.15	138±9.52	133±11.56	137±10.48	132±12.31	138±11.21	131±10.79	136±9.76
Diastolic P (mmHg)[2]	82±10.21	80±8.43	81±11.10	79±8.84	81±10.83	79±9.69	80±9.81	78±10.45

+significant differences after the last evaluation ($p \leq 0.05$); ** significant differences between the beginning and the end of the program ($p \leq 0.05$)

CONCLUSIONS

The results of this study show that nine months of physical exercise were enough to improve BF% regardless of the age difference, and this improvement was more evident after 3 months in group A and only after 6 months in group B. Blood pressure did not show any significant changes in both groups despite being in normative values.

References

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