

EFFECTS OF A PHYSICAL EXERCISE PROGRAM IN THE FUNCTIONAL FITNESS AND BODY COMPOSITION OF AN ELDERLY POPULATION

Martins, A.1, Raimundo, A.1, 2, Pereira, C.1, 2

1: UE (Évora, Portugal), 2: CIDESD (Portugal)

Introduction

Exercise is a key mean for the maintenance of health, functional capacity, quality of life and independence in the elderly, being recommended the performance at least 3 sessions/week (ACSM, 2009). Although many elderly adhere to these recommendations, the absenteeism can be an impediment to exercise benefits. This study aimed to analyze the effects of a 3 months exercise program (3 sessions/week; 50-60'; 50-60%HRmax.), accounting for absenteeism, in elderly women.

Methods

Participants were 44 women ≥ 60 yrs clustered into 3 groups: Experimental 1 (E1: 20-59% sessions; n:13; age: 69,3 \pm 6,9 yrs); Experimental 2 (E2: =60% sessions; n:15; age: 70.9 \pm 5.6 yrs); Control (C: 0% sessions; n:16; age: 68.7 \pm 9.2 yrs). Anthropometry and DXA assessed body composition. Clinical analysis determined the lipid profile. Functional Fitness Test assessed physical fitness. POMS-SF questionnaire assessed the Mood States. The variation between pre post intervention were computed for all variables. Comparisons between groups were performed by ANOVA and Bonferroni post hoc test or by Kruskal-Wallis and Pair Wise Wilcoxon tests. The level of significance was set at $p < 0.05$.

Results

There were significant differences between groups concerning variation in upper ($p = .001, E2 > C$) and lower strength ($p = .009, E2 > C = E1$), lower flexibility ($p = .020, E2 > C$), aerobic endurance ($p < .001, E2 = E1 > C$) and speed/agility/balance ($p < .001, E2 = E1 < C$); fatigue ($p = .023, E2 < C$), force ($p = .010, E2 > C$) and confusion ($p = .027, E2 < E1$). Variations concerning body composition and lipid profile variables were not significantly different from 0 in any group.

Discussion

The women engaged in the exercise program improved their physical fitness and mood states even when there was 40% of absenteeism. The benefits were decreasing with increased absenteeism. This finds complement previous researches (Spidurso et al., 2005) showing a strong relationship among systematic exercise, improved physical fitness and a positive psychological state in elderly population. Food ingestion and medications were not controlled and the exercise program (50-60%HRmax) lasted 3 weeks. This suggests why body composition and lipid profile did not improve, since other studies (Tran et al. 1983) endorsed both caloric restriction and a long time exercise engagement at intensity =60%HRmax to improve these parameters.

In conclusion, this study highlights the usefulness of programs adopting an active lifestyle through exercise because proved that exercise have benefices in physical fitness and mood state even with a high absenteeism.

References

1ACSM (2009). Med Sci Sports Exerc, 1510-1530

2Spidurso W, Francis K. & MacRae P (2005). Champaign, Human Kinetics

3Tran Z, Weltman A, Glass G & Mood D (1983). MED Sci Sports Exerc, 15, 393-402