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EFFECTS OF EIGHT-WEEK MODERATE INTENSITY BODYWEIGHT EXERCISE ON WEIGHT LOSS AND FUNCTIONAL FITNESS IN ELDERLY

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Introduction

With increasing age, the function of human body will gradually decrease. It tends to cause low fitness level and high obesity rate. Regular physical activities have been revealed several benefits in physiology and psychology. To increase physical activities, bodyweight exercise is a safe and effective way to executed. Therefore, the aim of this study was to investigate the effects of eight-week moderate intensity bodyweight exercise on weight loss and functional fitness in elders.

Methods

20 elders (73 ± 5.8 years) were recruited to the eight-week moderate intensity bodyweight exercise program, and the exercise session were executed twice a week. Each session involved 12 min warm-up followed by 30 min bodyweight exercise and 12 min cool-down. Heart rate was monitored during the exercise session.

Results

The significant differences were observed between baseline and post-exercise test in the weight (63.6 ± 10.1 and 62.71 ± 9.77 kg), waist-line (87.1 ± 8.47 and 83 ± 7.2 cm), chair stand test (19.4 ± 6.1 and 23.5 ± 6.2 kg), arm curl test (21.2 ± 5.9 and 27.6 ± 5.9 kg), 2-minute step test (118.8 ± 20.3 and 130.7 ± 18.8 kg), back scratch test (R[†] -0.5 ± 7.7 and 4.0 ± 5.0, L[†] -6.6 ± 10.0 and 5.9 ± 1.6 kg, p < .05). In sit and reach test was no significant difference (p > .05).

Discussion

After eight weeks exercise intervention, weight loss, muscle strength, cardiovascular endurance can be improve, but flexibility did not. For reaching the comprehensive physical fitness promotion, we suggest the exercise prescription might need to extend the period or mix different types of exercise in the future.

References

- American College of Sports Medicine. (1998). Exercise and physical activity for older adults. *Medicine and Science in Sports and Exercise*, 30 (6), 992-1008.
- Elder, B. M. (2002). Measuring physical fitness of adults in the primary care setting. *The American Journal for Nurse Practitioners*. 6 (4), 9-13.
- Riddick, C. C., & Stewart, D. G. (1994). An examination of the life satisfaction and importance of leisure in the lives of older female retirees: A comparison of blacks to whites. *Journal of Leisure Research*, 26(1), 75-87.

NORDIC WALKING CAN BE INCORPORATED IN THE EXERCISE PRESCRIPTION TO INCREASE AEROBIC CAPACITY, STRENGTH AND QUALITY OF LIFE FOR ELDERLY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction

The worldwide increase of old people is associated with the requirement of new strategy for the management of their needs, with particular attention to the preservation of functional capacity and promotion of their quality of life. Physical activity is strongly recommended to elderly population, and its positive key-role in age-related physical declines, is associated to the enhancement of quality of life.

Methods

Keyword "Nordic Walking" associated with "elderly", "aging", "old subjects" and "aged" were used in the online database Medline, Embase, PubMed, Scopus, PsycINFO and SPORTDiscus. Only studies published in peer-reviewed journals written in English language were considered. A meta-analysis was performed and effect sizes (ES) calculated.

Results

Applying inclusion and exclusion criteria, 9 studies were considered eligible for this review. Sample sizes ranged from 18 to 95 subjects, aged more than 60 years. Intervention lasted from 6 to 35 weeks, with a frequency of 2 or 3 times per week.

Discussion

Comparing with a sedentary group, ES showed that Nordic Walking improves dynamic balance (0.25), functional balance (0.62), muscle strength of upper (0.74) and lower limbs (0.22), aerobic capacity (0.9), cardiovascular outcomes (0.23), gait analysis (0.23), body composition (0.25) and lipid profile (0.43), while seems that Nordic Walking has a negative effect on static balance (-0.72). Comparing with a Walking Training, ES showed that Nordic Walking improves dynamic balance (0.3), flexibility of lower body (0.47) and quality of life (0.53), while Walking Training is more effective in improving aerobic capacity (-0.21). Comparing with Resistance Exercise, ES showed that Nordic Walking improves dynamic balance (0.33), muscle strength of lower body (0.39), aerobic capacity (0.75) and quality of life (0.93), while resistance exercise is more effective in increasing the flexibility of upper body (-0.41). Nordic Walking can be considered as a safe and accessible form of aerobic exercise for elderly population, able to improve physical fitness and quality of life. Our results indicate that clinicians who consider Nordic Walking for exercise prescription are suggested to recommend it at least twice per week, at moderate to vigorous rate of perceived exertion (from 13-14 to 15-16) depending on current conditioning, and to add supplemental flexibility and strength exercises, especially for the lower limb.

EFFECTS OF LINEAR PERIODIZATION AND DAILY UNDULATORY PERIODIZATION ON FUNCTIONAL CAPABILITY IN ELDERLY WOMEN

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Introduction

The functional capacity impairing during aging have been associated with strength levels decline. In this sense, the resistance training (RT) program can be used as efficiently exercise modality to improve strength levels and consequently functional capacity. However, is not clear the effect of different periodization on elderly functional capacities. Thus, the aim of the present study was to analyze the effect of linear and daily undulation resistance training periodization design on sedentary elderly women functional capacity.

Methods