EFFECT OF COMBINED TRAINING ON THE HYPERTENSIVE ELDERLY QUALITY OF LIFE

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Abstract
One of the most prevalent diseases in the elderly is hypertension, which even when controlled, can also affect the quality of life (QoL) of this population. Habits such as regular exercise can reduce blood pressure at rest, during physical effort and provide other benefits to hypertensive individuals. Resistance and aerobic training, promote complementary health benefits that indirectly increases elderly QoL, being the main ones the increases in strength and aerobic fitness, respectively. Although combined training (CT) (resistance plus aerobic exercises) is recommended for the health of the elderly and hypertensive, but the specific effect of QoL pattern on hypertensive population is uncertain. Therefore, WHOQOL-brief questionary (containing 26 subjective issues, divided into four domains - physical, psychological, social and environmental) was applied to assess the profile of each individual QoL, pre and post-CT or control period (without exercise). Sixteen weeks of CT increased, the physical and environmental domains of QoL, as well as the total QoL scores different of control group (CG); leading us to conclude it is effective therapy for hypertensive elderly, therefore we conclude with the present study that the CT protocol for 16-weeks was able to improve the QoL scores.

**Key words:** combined training, hypertension, elderly, quality of life.

**Introduction**
One of the most prevalent diseases in the elderly is hypertension, which even when controlled, can also affect the QoL of this population. Habits such as regular exercise can reduce blood pressure at rest and during physical effort, and provide other benefits to hypertensive elderly. The combined training (CT) has been recommended to obtain the benefits of each of the distinct exercises, both for the elderly hypertensive being the main ones the increases in strength and aerobic fitness, respectively\(^1\). In addition, exercise contributes to improved mental health\(^3\) and reduced levels of depression and anxiety\(^7\). These benefits in turn could contribute to the psychological aspects of QoL. However, it is important to identify whether CT can indeed bring benefits to elderly QoL and what factors contribute to these possible changes. Our aim was to analyze the effect of 16-weeks of CT on QoL in elderly hypertensive patients.

**Results and Discussion**
Fifth hypertensive over 60 years of age, were randomized for CT or control group (CG). All participants filled the QoL questionnaire (WHOQOL-brief) at the pre- and post-intervention. We applied a 16-weeks CT program based on international guidelines\(^1\). The training has a frequency of 3 sessions per week, each session consisting of 15min of resistance training, followed by 50min of aerobic exercise. The CG didn’t present any increase in the domains or in the total QoL score. However, 16-weeks of CT increased the physical and the environmental domain, and the total QoL significantly and different of CG (Figure 1). This is due to the fact that CT was fundamental in improving QoL, as well as directly influences the physical domain and a relationship with the environment. In addition, other study\(^5\) showed that CT also brings gains in strength and aerobic capacity in which they contribute to the improvement in activities of daily living, as well as directly influence the domains present in the QoL questionnaire\(^6\).

**Conclusions**
In view of the finding, regular CT for 16-weeks was able to provide significant positive changes in QoL scores. The CT protocol for hypertensive elderly was able to mainly improve the physical and environmental domain, resulting in an improvement in the total QoL score.

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