

POSTER PRESENTATION 3: PHYSICAL AND MENTAL HEALTH

Effect of resistance exercise training combined with plant-based protein supplementation on the prevention of sarcopenia in the middle-aged and elderly

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Purpose In order to achieve the strengthening of the elderly muscle strength and delay the occurrence of sarcopenia, this research has been applied the quasi-experimental method and the interventions (the resistance exercise training program and the supplementing plant-based protein) to enhance the muscle strength of the elderly and delay the occurrence of sarcopenia. **Method** This research has adopted the purposive sampling method. The objects of this research were the elders over 55 years old of Beiliu, Nanliu, & Jinrong long-term care stations (LTC) who meet the SARC-F score ≥ 4 . Group A is given resistance exercises for 12 weeks, 3 times a week, 30 minutes each time. Group B received nutritional intervention in addition to the above resistance exercises. Group C carried out activities based on the existing courses in the community. Men and women are equally divided into three groups, A, B, and C, with 12 people in each group, for a total of 36 people. Accept 12 weeks, 3 times a week, 30 minutes of exercise and nutrition intervention. 36 participants will be tested before and after In this study, including body composition analysis, calf and leg circumference measurement, handgrip strength, 6-meter walking speed, sitting and standing. **Results and Discussion** This study found that experimental group B (resistance exercise + nutrition intervention) performed better than experimental group A (resistance exercise) and control group C (community general activity) in the difference of muscle mass and muscle fitness before and after. Especially in the left and right calf leg circumference, dominant handgrip, six-meter walking speed, and standing up all reached significant differences. Experiment A group is better than the control group C only in the six-meter walking speed item; the experiment B group is better than the control group C in two items such as the left calf circumference and the six-meter walking speed. Compared with the other two groups, the experimental group B given resistance exercise training combined with plant-based protein supplementation has a greater help to the muscle fitness performance of the elderly and can prevent and reduce the risk of sarcopenia in middle-aged and elderly people.

Keywords: sarcopenia, resistance exercise training, plant protein, middle-aged and elderly adults, muscle fitness

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