

The Effects of Dance-Based Exercise on Body Composition, Physical Fitness, and Cognitive Function in Older Adults

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ABSTRACT

Regular physical activity is widely recommended and has many benefits for older adults to maintain health and physical fitness. The excellent exercise program in older adults should include crucial components such as physical fitness and cognitive function. **PURPOSE:** To determine the effects of dance-based exercise training compared with traditional chair-based exercise on body composition, physical fitness, and cognitive function in the older adults. **METHODS:** Fourteen older adults (female: 11, male: 3), aged 71.2 ± 8.0 years, were assigned into two groups: dance-based exercise (DE; $n=8$) and traditional chair-based exercise (TE; $n=6$). Both forms of exercise training were provided twice a week during 8 weeks and were performed for 60 min per session. Each session included 30 min main exercises, a 10 min warm-up, a 10 min cool-down, and short breaks between the different exercises or movements adding another 10 min. The intensity of two different types of exercise programs was adjusted (60-80% of maximal heart rate) by a physical activity tracker, which recorded heart rates (HR) during the exercise session. The DE program focused on elementary spins (longitudinal turns), shifts of center of gravity (COG), single-leg stances, skips and hops, different steps (i.e., mambo, cha cha, grapevine, jazz square) to challenge the balance system. Height (cm), body mass (kg), waist circumference (cm), hip circumference (cm), percent body fat (%), blood pressure (mmHg), resting HR ($b \cdot min^{-1}$), muscular strength (kg), balance ability (s), and cognitive function (score) were measured pre- and post-intervention, and the results were analyzed utilizing a repeated measures two-way ANOVA ($p < 0.05$). **RESULTS:** Balance ability (one-leg standing with eyes open, left leg) was significantly increased only in DE (13.2 ± 17.8 to 21.6 ± 19.5 s, $p = .007$). Systolic blood pressure was significantly decreased only in TE (142.0 ± 16.4 to 127.0 ± 13.8 mmHg, $p = .024$). Waist circumference ($p = .006$) and 30-second chair stand ($p = .004$) were significantly improved in both groups. There was no significant difference in other variables after 8 weeks of training. **CONCLUSION:** The results indicate that dance-based exercise is an effective exercise regimen compared to the traditional chair-based exercise to improve balance ability and lower body muscular strength in older adults.