90-Day Strength Training Intervention Decreases Incidence of Sarcopenia: A Pre- and Posttest Pilot Study of Older Adults in a Skilled Nursing Facility

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Abstract : Sarcopenia is a well-known geriatric syndrome characterized by the progressive and generalized loss of muscle quantity or quality. The incidence of sarcopenia increases with age and is associated with adverse outcomes such as the increased risk of falls, cognitive impairment, loss of independence, diminished quality of life, increased health costs, need for care in a skilled nursing facility, and increased mortality. Physical activity, including resistance training, is the most prevalent recommendation for treating and preventing sarcopenia. Residents (N = 23) of a skilled nursing facility in East Orlando, Florida, participated in a 90-day strength training program designed using the PARIHS framework to improve measures of muscle mass, muscle strength, physical performance, and quality of life. Residents engaged in both resistance and balance exercises for 1 hour two times a week. Baseline data were collected and compared to data at Days 30, 60, and 90. T tests indicated significant gains on all measures from baseline to 90 days: muscle mass increased by 1.2 ($t[22] = 2.85$, $p = .009$), grip strength increased by 4.02 ($t[22] = 8.15$, $p < .001$), balance increased by 2.13 ($t[22] = 18.64$, $p < .001$), gait speed increased by 1.83 ($t[22] = 17.84$, $p < .001$), chair speed increased 1.87 ($t[22] = 16.36$, $p < .001$), and quality of life score increased by 17.5 ($t[22] = 19.26$, $p < .001$). For residents with sarcopenia in skilled nursing facilities, a 90-day strength training program with resistance and balance exercises may provide an option for decreasing the incidence of sarcopenia among that population

Keywords : muscle mass, muscle strength, older adults, PARIHS framework
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