

Resistance Training Status and Detection of Sarcopenia-Related Risk in Older Adults

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ABSTRACT

Sarcopenia is a disease that causes adverse muscular changes with aging, and early screening may be critical in prevention and treatment. Past studies have not investigated early detection of sarcopenia risk using questionnaires with older adults who do and do not resistance train. **PURPOSE:** To examine the sensitivity of two sarcopenia-related risk questionnaires (SarQoL and SARC-F) in detecting group differences between resistance-trained and non-resistance-trained older adults. **METHODS:** Thirty-eight healthy participants completed a survey assessing sarcopenia-related quality of life (SarQoL) and sarcopenia-related risk factors (SARC-F), after being categorized into two groups based on resistance training status: Old Not Resistance Trained (ONT: $n = 21$; age: 68.3 ± 1.6 years) and Old Resistance Trained (ORT: $n = 17$; age: 69.2 ± 1.8 years). The ORT group had been performing resistance exercise ≥ 2 times/week for at least the last 6 months. The SarQoL assessed Total SarQoL and 2 dimensions: Physical and Mental Health and Locomotion, on a scale from 0-100 where a higher score reflects higher quality of life. The SARC-F has 5-items that address difficulty with lifting and carrying, walking, rising from a chair, climbing stairs (None = 0, Some = 1, A lot = 2, Unable = 3), and frequency of falls (None = 0, 1-3 falls = 1, 4 or more falls = 2). Independent *t*-tests were used to analyze group differences, and effect size is reported as Cohen's *d*. Data are reported as mean \pm SE. **RESULTS:** For Total SarQoL, ORT (87.07 ± 1.47) scored significantly higher than ONT (81.86 ± 1.07 ; $p = 0.007$) with a large effect ($d = 0.957$). For Physical and Mental Health, ORT (85.75 ± 2.12) scored significantly higher than ONT (77.90 ± 1.99 ; $p = 0.011$) with a large effect ($d = 0.878$). For Locomotion, ORT (91.01 ± 2.19) scored significantly higher than ONT (84.14 ± 2.27 ; $p = 0.036$) with a medium effect ($d = 0.700$). For SARC-F there was no significant difference between the groups (ORT: 0.294 ± 0.166 ; ONT: 0.238 ± 0.118 ; $p = 0.785$; $d = 0.092$). **CONCLUSION:** The results of this study show that the SarQoL assessment detected differences between resistance-trained and non-resistance-trained older adults, whereas the SARC-F did not, suggesting that the SarQoL may be more sensitive to early risk detection and allow for timely treatment relating to sarcopenia. The resistance trained group reported significantly higher quality of life than the non-resistance trained group, suggesting that including resistance training in a health and fitness routine may be an effective strategy to mitigate or delay the onset of sarcopenia symptoms (e.g., feelings of weakness, difficulty walking on uneven ground) in older adults.