Resistance Training and Quality of Life Among Younger and Older Adults

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ABSTRACT

Older adults are at risk for sarcopenia, which can lead to reduced physical function, physical activity, and quality of life (QoL). **PURPOSE**: To determine the effects of aging and sedentary behavior on risk for sarcopenia, the purpose was to compare resistance trained and nonresistance trained younger and older adults on two sarcopenia-related outcomes: QoL and physical activity level (PA). **METHODS**: Younger (23.8 ± 0.4) and older (68.5 ± 1.2) healthy adults were categorized into 4 groups: young trained (YT: n = 22), young not trained (YNT: n = 16), old trained (OT: n = 17), and old not trained (ONT: n = 21). Resistance trained participants trained ≥ 2X per week, for the past ≥ 6 months. Participants completed a survey to assess health-related QoL, using the Sarcopenia and Quality of Life Questionnaire (SarQoL), and PA, using the Leisure Time Exercise Questionnaire (LTEQ). The SarQoL provides a total QoL score based on 7 dimensions. We were interested in total QoL and the following 3 dimensions: physical and mental health, functionality, and activities of daily living (ADLs). Scores range from 0 (worst health) to 100 (best health). The LTEQ provides a score for PA units, based on vigorous, moderate, and light PA in the past week, with higher scores indicating more PA. ANOVAs were used to determine group differences for each variable, $p \leq 0.05$. Data are reported as mean ± SE. **RESULTS**: Group differences emerged for all variables ($p \leq 0.05$). For total QoL, YT (94.5 ± 1.4) was significantly higher than all other groups (YNT: 86.4 ± 1.6, $p < 0.001$; OT: 87.1 ± 1.6, $p = 0.001$; ONT: 81.9 ± 1.4, $p < 0.001$). OT ($p = 0.017$) and YNT ($p = 0.039$) were significantly higher than ONT. For physical and mental health, YT (94.2 ± 2.4) was significantly higher than all groups (YNT: 82.2 ± 2.8, $p = 0.002$; OT: 85.8 ± 2.7, $p = 0.022$; ONT: 77.9 ± 2.4, $p < 0.001$). OT was significantly higher than ONT ($p = 0.035$). For functionality (e.g., balance, climbing stairs), YT (97.5 ± 1.4) again was significantly higher than the other groups (YNT: 92.0 ± 1.6, $p = 0.012$; OT: 88.9 ± 1.6, $p < 0.001$; ONT: 85.6 ± 1.4, $p < 0.001$). YNT was significantly higher than ONT ($p = 0.004$). For ADLs (e.g., difficulty, fatigue, or pain during physical effort), YT (95.4 ± 1.7) was significantly higher than all groups (YNT: 87.3 ± 1.9, $p = 0.002$; OT: 87.9 ± 1.9, $p = 0.004$; ONT: 84.7 ± 1.7, $p < 0.001$). For all QoL variables, OT did not differ from YNT ($p > 0.05$). For PA, YT (58.5 ± 6.1 AU) had the same activity level as OT (50.0 ± 6.9 AU, $p = 0.356$). YT was significantly higher than YNT (31.1 ± 7.3 AU, $p = 0.005$) and ONT (32.4 ± 6.4 AU, $p = 0.004$). All other group comparisons were not different ($p > 0.05$). **CONCLUSION**: Interestingly, OT was similar to YT on PA and similar to YNT on QoL outcomes. Further, OT was higher than ONT on perceptions of physical and mental health and total QoL. These data suggest that resistance training may be an effective modality to improve or maintain QoL as individuals age. Funded by Texas American College of Sports Medicine Student Research Development Award and Thesis Fellowship Award to H. Kendall.