

Associative study between handgrip strength, body composition and functional fitness in healthy elderlies.

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Introduction/ Background

Poor handgrip strength is associated with elderly's disability (1, 2). As far as our understanding goes, independent elderlies trend to have high levels of quality of life (1). Even more, body composition and functional fitness presents association with quality of life (2).

Objectives

The aim of this study was to assess the associations between body composition, functional fitness and handgrip strength. It was hypothesized that handgrip strength is associated with elderly's body composition and functional fitness.

Materials and Methods

Forty-eight elderly subjects with 69.61 (\pm 4.21) years old volunteered for this study. The handgrip strength was measured with a digital mechanical dynamometer (CAMRY, New York, USA). The functional fitness was assessed by the functional fitness test (3). The body composition was evaluated by a bioimpedance balance (Tanita, BC-601, Illinois, USA). The spearmen's test allowed to assess the significant associations between the handgrip strength, functional fitness and body composition

Results

The handgrip strength only presented significant associations with height ($r_s = 0.588$; $p < 0.001$), basal metabolism ($r_s = 0.568$; $p < 0.001$), water percentage ($r_s = 0.504$; $p = 0.001$), visceral fat ($r_s = 0.336$; $p = 0.032$), bone mineral mass ($r_s = 0.630$; $p < 0.001$), muscular mass ($r_s = 0.607$; $p < 0.001$) and fat mass percentage ($r_s = -0.502$; $p = 0.001$). No significant associations were observed between handgrip strength and functional fitness.



Discussion and Conclusion

This study showed that handgrip strength is related with body composition. Some studies report that handgrip strength is related with functional fitness (1,2). It is possible to conclude that, handgrip strength present positive association with body mass. However, it is to note that, high levels of fat mass are negative associated with handgrip strength. The handgrip strength may not predict the elderly's functional fitness.

References

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