ABSTRACT

BACKGROUND: Handgrip strength is a quick and simple measure of muscular function that can be measured feasibly in clinical and field settings. Its practicality has made it an attractive additional criterion for the diagnosis of sarcopenia in clinical settings. However, it is unknown how handgrip strength performance relates to other common measures of physical health and function in healthy older adults. PURPOSE: The purpose of this study was to examine the relationship between maximal handgrip strength and other common measures used to assess physical health in older persons.

METHODS: Thirty-six healthy older men and women (age: 71.3±6.1 y; BMI: 27.9±5.2 kg-m-2) completed tests of muscular function including maximal isometric grip strength (GRIP) and timed sit-to-stand. Body composition was assessed by Dual-energy X-ray absorptiometry and fasting serum samples were collected to evaluate circulating albumin and hemoglobin concentrations. Pearson's correlation coefficients were computed to assess the relationship between handgrip strength and other measures of physical health and function.

RESULTS: Grip strength ranged from 9.7 to 53.3 kg (mean±SD = 30.6±12.3 kg). Pearson's correlation coefficient for handgrip strength and other common measures of physical health and function are as follows: Sit to stand: r=-.34; Lean soft tissue (kg): r=.83; Arm lean mass (kg): r=.84; Skeletal muscle index: r=.74; Albumin (g/dL): r=.06; Hemoglobin (g/dL): r=.36.

CONCLUSIONS: Maximal handgrip strength demonstrated a significant and moderate to high relationship with all variables with the exception of albumin. These data suggest that the handgrip strength may be related to physical health and nutritional status of older men and women in this study. PRACTICAL APPLICATION: The salient features of the handgrip strength test are the ease of measurement, portability of the testing device, minimal time required for testing, and relationship to other important measures of muscle strength and function. The observed positive relationship between handgrip strength and other measures of physical health and function. It is unknown how handgrip strength performance relates to other common measures of physical health and function in healthy older adults. The observed positive relationship between handgrip strength and other common measures used to assess physical health in older persons.

INTRODUCTION

Handgrip strength is a quick and simple measure of muscular function that can be measured feasibly in clinical and field settings. Its practicality has made it an attractive additional criterion for the diagnosis of sarcopenia in clinical settings. However, it is unknown how handgrip strength performance relates to other common measures of physical health and function in healthy older adults. The purpose of this study was to examine the relationship between maximal handgrip strength and other common measures used to assess physical health in older persons.

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