

Handgrip strength and long COVID

A test for evaluating capacity

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Dear Editor,

We were very interested to read the paper by *Lasso-Ossa et al.* (1) titled “The clinical course and frequency of risk factors associated with mortality in severe COVID-19 ARDS in ICU,” in which the authors concluded that mortality in COVID-19 patients was associated with age, the need for invasive mechanical ventilation, hypertension, diabetes and chronic obstructive pulmonary disease (1). Also, the article “Clinical characteristics and factors associated with mortality in patients hospitalized for COVID-19 in the ICU” by *Hernández et al.* (2), in which they concluded that it is important to understand the different behaviors depending on the risk factors, in order to take early intervention measures (2).

Based on the foregoing, the identification of risk factors and a multisystemic understanding of COVID-19 is crucial for clinical practice. However, a new concern has recently emerged for health and sports professionals related to “long COVID.” This term refers to the variety of symptoms and sequelae that manifest even after a considerable amount of time has passed since the SARS-CoV-2 infection, and, therefore, research on long COVID is a broad and novel field.

The literature suggests that long COVID affects skeletal muscle, causing fatigue, reduced mobility, weakness and low physical performance (3). In this case, decreased muscle strength due to long COVID has consequences on the muscle mass, quality of life, wellbeing, morbidity and mortality of different populations who have these sequelae.

On the other hand, the relationship between SARS-CoV-2 and decreased handgrip strength has been previously documented (4), and, conversely, handgrip strength is higher in a control group than in patients with long COVID (5).

Therefore, we conclude that long COVID and its sequelae on the skeletal muscle system is a public health problem today. Likewise, handgrip strength is part of a wide variety of functional tests to evaluate people’s physical condition and health. Therefore, handgrip strength should be considered a key element for functional capacity assessment in the monitoring, follow-up and control processes of programs offered by healthcare institutions and/or research centers for long COVID cases.

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REPLY

Clinical course and frequency of risk factors associated with mortality from severe COVID-19 ARDS in the ICU

It is important to identify the risk factors related to a disease and be able to classify which of these are modifiable or nonmodifiable determinants. According to the literature, the non-modifiable determinants related to long COVID include decreased muscle strength. This condition affects morbidity, mortality and quality of life, and therefore handgrip strength measurement has been proposed for assessing functional capacity, which can be estimated using easily portable devices like a dynamometer. Thus, if this test were performed beginning in the intensive care unit, the patients' functional capacity permitting, those requiring a rehabilitation program and closer follow up to avoid complications like ICU-acquired weakness could be identified.

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