



Contents lists available at ScienceDirect

Heart &amp; Lung

journal homepage: [www.heartandlung.com](http://www.heartandlung.com)

## Comment on “Grip strength as a predictor of disease severity in hospitalized COVID-19 patients”

### ARTICLE INFO

#### Article History:

Received 23 August 2022

Accepted 23 August 2022

Available online xxx

#### To the editor,

I have read with keen interest the manuscript titled “Grip strength as a predictor of disease severity in hospitalized COVID-19 patients” by Kara et al. in which the authors conclude that low grip strength increases the severity of COVID-19 independent of other factors.<sup>1</sup> However, there are a few concerns that I would like to raise.

First of all, it is a single center study, and the subjects are recruited from Turkey; therefore, due to differences in racial makeup and genetic background, caution needs to be exercised when extrapolating the results to other countries.

Additionally, there is lack of mention regarding the parameters that represents muscle mass; thus, no association can be drawn between sarcopenia and the COVID-19 disease severity.

Furthermore, due to the cross-sectional nature of the study, no firm conclusions regarding causal inference can be drawn. Also, as there is no follow-up, we are unable to compare the results to those of other researches<sup>2</sup> that looked at long-term consequences.

Some other factors that influence grip strength yet were not addressed in this study are body construct including height, bone mineral density, hand size, upper arm circumference and socioeconomic variables including occupation, social status, and lifestyle.<sup>3</sup>

Moreover, it has been discovered that grip strength varies throughout the day. For instance, this research<sup>4</sup> demonstrates that grip strength increases between 6.00 am and 9.00 am whereas it decreases between 8.00 pm and 4.00 am.

Although it is not considered in this study, depression is another factor linked to a higher chance of losing muscular strength.<sup>5</sup>

Finally, it is a good opportunity to address a relatively less talked about concept of dynapenia which is an age-related muscle weakness

not brought on by neurological or muscular disorders. Older persons who have dynapenia are more likely to experience functional restrictions and mortality.<sup>6</sup>

#### Declaration of Competing Interest

The author declares no competing declaration of interest.

#### Acknowledgment

None.

#### References

- 1 Kara Ö, Kara M, Akın ME, Özçakar L. Grip strength as a predictor of disease severity in hospitalized COVID-19 patients. *Heart Lung*. 2021;50(6):743–747. <https://doi.org/10.1016/j.hrtlng.2021.06.005>. Nov-Dec.
- 2 Zhang XM, Jiao J, Zhu C, et al. Association between low handgrip strength and 90-day mortality among older Chinese inpatients: a national multicenter prospective cohort study. *Front Nutr*. 2021;8: 628628. <https://doi.org/10.3389/fnut.2021.628628>. Jun 29.
- 3 Lee JE, Kim KW, Paik NJ, et al. Evaluation of factors influencing grip strength in elderly Koreans. *J Bone Metab*. 2012;19(2):103–110. <https://doi.org/10.11005/jbm.2012.19.2.103>. Nov.
- 4 Martin S, Neale G, Elia M. Factors affecting momentary grip strength. *Hum Nutr Clin Nutr*. 1985;39C:137–147.
- 5 Rantanen T, Penninx BW, Masaki K, Lintunen T, Foley D, Guralnik JM. Depressed mood and body mass index as predictors of muscle strength decline in old men. *J Am Geriatr Soc*. 2000;48(6):613–617. <https://doi.org/10.1111/j.1532-5415.2000.tb04717.x>. Jun.
- 6 Clark BC, Manini TM. What is dynapenia? *Nutrition*. 2012;28(5):495–503. <https://doi.org/10.1016/j.nut.2011.12.002>. May.