Clinical Nutrition 36 (2017) 903–904

Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

Letter to the Editor

Methodological issues in determination of low muscle mass reference cut-off values: Reply to Comment on "Cut-off points to identify sarcopenia according to European Working Group on Sarcopenia in Older People (EWGSOP) definition"

Keywords:
Cut-off points
Sarcopenia
Methodology
EWGSOP
Turkey

Dear Editor,

We read the comment of Soysal et al. to our study reporting the reference cut-off values for muscle mass and muscle strength according to EWGSOP definition in Turkish population [1,2]. We thank this letter to give us the opportunity to clarify some possible misreadings of our methodology.

First, the authors noted that we have "compared" a community dwelling group including 406 subjects with a young reference group including 301 participants. However, we did not compare these two patient groups. Rather, we included the healthy young adults between 18 and 39 years of age to predict the muscle mass thresholds and the community-dwelling older adults to assess hand grip strength thresholds which are "two different and independent analyses"- not a comparison analysis.

Second, the authors claim that our finding of higher cut-off values for SMMI might be due to presence of few "older" patients with low muscle mass and suggest that the study population should contain a sufficient number of patients with sarcopenia while determining cut-off values for SMMI. This suggestion is invalid since as noted above, we have not used SMMI data of the older adults to determine the SSMI threshold. The cut-off thresholds for muscle mass were defined as the mean −2SD of the values of the young reference study population in accordance with many previous studies [3]. Hence, young reference population are not expected and could not have significant number of low SMMI subjects as they should be "healthy" by definition.

Third, the authors noted that there was hardly any patient with sarcopenia in the five percentiles of the population according to the cut-off values for SMMI and suggest that this finding was neither compatible with literature, nor with the previous study of our group in 2010 [4]. It is overlooked that in our 2010 study, the EWGSOP consensus definition of low muscle mass (LMM) was not available thus we had defined sarcopenia (LMM) with a significantly different methodology: the mean −2 standard deviation of fat free mass corrected for the body surface area of the young reference population. Very recently, we analysed the same population to assess LMM prevalence with the EWGSOP suggested methodology and Turkish population thresholds, and reported the prevalence of LMM as 23%, which is obviously very lower than the former 85.4% prevalence [5]. One should note that the reported prevalence of LMM is subject to change according to the applied methodology and accordingly the comparison of the LMM prevalences determined with different approaches is not justified.

We denoted and discussed in our paper that the Turkish SSMI thresholds were somewhat higher yet comparable with the French, Spanish and Taiwanese counterparts. Another indirect data provides additional insight that the Turkish SMMI thresholds shall be higher than the other-so far-reported populations. In our reference study, we have found the calf circumference (CC) threshold determined by value for identifying participants with low SMMI as <33 cm – higher than the standard suggestion of 31 cm [2]. This finding is important and already in accordance with our prior publication: The sarcopenia assessment project in Turkish nursing homes [6]. In that former study, CC threshold was determined with a different methodology i.e. the value predicting the low muscle strength – as another indicator of sarcopenia. It was noted as high as 35 cm which is also higher than the standard 31 cm, yet with lower sensitivity/specificity. The CC is regarded as an indirect predictor of SMMI as it gives a rapid insight to assess muscle mass. Our two studies from Turkish population in different settings with different and independent methodologies suggest that SMMI threshold is higher in the Turkish population as is the muscle strength threshold.

References

[1] Soysal P, Isik AT. Comment on "Cut-off points to identify sarcopenia according to European Working Group on Sarcopenia in Older People (EWGSOP) definition". Clin Nutr 2016;35(6):1586.
[2] Bahat G, Tufan A, Tufan F, Kilic C, Akpinar TS, Kose M, et al. Cut-off points to identify sarcopenia according to European Working Group on Sarcopenia in Older People (EWGSOP) definition. Clin Nutr 2016;35(6):1557–63.
[3] Baumgartner RN, Koehler KM, Gallagher D, Romero L, Heymsfield SB, Ross RR, et al. Epidemiology of sarcopenia among the elderly in New Mexico. Am J Epidemiol 1998 Apr 15;147(8):755e63.

DOI of original article: http://dx.doi.org/10.1016/j.clnu.2016.09.007.

http://dx.doi.org/10.1016/j.clnu.2017.02.023
0261-5614/© 2017 Elsevier Ltd and European Society for Clinical Nutrition and Metabolism. All rights reserved.

[4] Bahat G, Saka B, Tufan F, Akin S, Sivrikaya S, Yucel N, et al. Prevalence of sarcopenia and its association with functional and nutritional status among male residents in a nursing home in Turkey. Aging Male 2010;13(3):211–4.
[5] Tufan A, Bahat G, Ozkaya H, Taşcıoğlu D, Tufan F, Saka B, et al. Low skeletal muscle mass index is associated with function and nutritional status in residents in a Turkish nursing home. Aging Male 2016 Sep;19(3):182–6.
[6] Halil M, Ulger Z, Varlı M, Doventas A, Oztürk GB, Kuyumcu ME, et al. Sarcopenia assessment project in the nursing homes in Turkey. Eur J Clin Nutr 2014;68(6):690e4.

Gulistan Bahat*, Asli Tufan, Cihan Kilic, Mehmet Akif Karan
Department of Internal Medicine, Division of Geriatrics, Istanbul Medical School, Istanbul University, Capa, 34390 Istanbul, Turkey

Alfonso J. Cruz-Jentoft
Servicio de Geriatría, Hospital Universitario Ramon y Cajal, Madrid, Spain

* Corresponding author. Fax: +90 212 532 42 08.
E-mail address: gbahatozturk@yahoo.com (G. Bahat).

16 February 2017