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Editorial

Sarcopenia and SARC-F: "Perfect is the Enemy of Good"

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In this issue of *The Journal of the American Medical Directors Association* (*JAMDA*), Voelker and colleagues present the results of a systematic review and meta-analysis measuring the reliability and concurrent validity of the SARC-F.[1] The study reports data gathered from 29 articles and more than 20,000 participants. Overall, the SARC-F shows relatively good inter-rater and test-retest reliability. However, the authors conclude that despite its high specificity, the low to moderate sensitivity of the SARC-F makes it nonoptimal for the screening of sarcopenia. Moreover, Voelker and colleagues tend to discourage the use of the SARC-F, suggesting the direct application of the diagnostic criteria for sarcopenia without prior screening.

The study expands a systematic review and meta-analysis published in *JAMDA* some time ago. Ida and colleagues[2] reported similar results, showing a low sensitivity and high specificity of the SARC-F for the detection of sarcopenia. However, unlike Voelker and colleagues,[1] they gave a completely different reading of their findings, indicating the SARC-F as "an effective tool for selecting subjects who should undergo further testing for confirming a diagnosis of sarcopenia."[2] Why such a discrepancy? How should we consider the SARC-F?

The study published in the present issue of *JAMDA* allows us to discuss the current state of sarcopenia implementation in research and clinical settings. In addition, it offers us the opportunity to raise awareness on critical issues that negatively affect the consideration given to this geriatric syndrome.

Since 2016, sarcopenia is officially recognized as a nosologic condition with a specific *International Classification of Diseases, Tenth Revision*, code.[3,4] Unfortunately, although considered a highly prevalent condition and one of the "giants" among geriatric syndromes,[5,6] the clinical recognition of sarcopenia is still suboptimal for many reasons.

There is general agreement in the literature that sarcopenia should be defined by evaluating both quantitative (ie, skeletal muscle mass) and qualitative (ie, skeletal muscle function) indicators.[7–9] Nevertheless, no operational definition of sarcopenia can today be considered to be the gold standard. Indeed, we are still debating what

the best tools are to translate the theoretical construct of sarcopenia into practice. To promote the rapid implementation of sarcopenia into clinical practice, some groups do not exclude the use of different tools or instruments for the assessment of the skeletal muscle characteristics.[9,10] Others propose nonspecific symptoms or signs (ie, "red flags") to raise awareness among clinicians,[11] without apparently giving too much importance to the heterogeneity of patients resulting from the case-finding phase. Others, instead, tend to focus on the very inner core of the biological and mechanistic construct of sarcopenia. For example, in a recently published position statement, the Sarcopenia Definition and Outcomes Consortium discourages the use of dual energy x-ray absorptiometry because its results are not sufficiently good predictors of adverse outcomes.[8]

Another major issue impacting the clinical implementation of sarcopenia is the absence of an approved pharmacologic agent specifically acting on the disease. Although different molecules are in the pipeline of pharmaceutical industries,[12] clinicians can today only recommend lifestyle modifications (in particular, physical activity and exercise and a protein-rich diet) to their patients with sarcopenia.[10] This shortcoming, in particular, leads some clinicians to downgrade sarcopenia from a condition "to be treated" to a risk factor for which general recommendations may at best be provided.

Last but not least, how confident are we that all of relevant stakeholders (eg, clinicians, public health authorities, the general public) have understood what sarcopenia is and why it is essential to tackle it? According to a recent article,[13] sarcopenia has minimal visibility. An analysis performed in Google Trends to mirror the public interest in geriatric topics showed an extremely low volume of searches for "sarcopenia" (roughly 50 and 30 times fewer than "dementia" and "osteoporosis," respectively, and about half of those performed on "frailty"). This brings to another worrying question: Are we sure that sarcopenia is not a condition only considered by geriatricians and very few others? If that is the case, as it actually seems to be, an increased awareness on this condition should be highly sought after given the detrimental consequences that sarcopenia has for the individual's quality of life, and its impact in geriatric medicine and the public health approach to older persons.[14] The implementation in the clinical setting of something that does not exist for the majority is a hopeless case.

In such a gloomy scenario, here comes the SARC-F (an acronym for Strength, Assistance in walking, Rise from a chair, Climb stairs, and Falls) questionnaire. The SARC-F was originally proposed by

Malmstrom and Morley in 2013 with the specific aim of promoting the identification of sarcopenia in the clinical setting.[15] Given its simplicity[16] (a 3-item version has even been developed[17]) and strong association with adverse outcomes in older persons,[18] the SARC-F has seen an incredible popularity. To date, the term "SARC-F" in PubMed generates more than 200 results, with an exponential increase of the entries over the years. Moreover, its inclusion in the clinical routine has led different panels of experts to recommend its use as an entry door to the diagnostic makeup of sarcopenia in older persons.[9,10]

The "pedagogic" potential of the instrument cannot be disregarded. We need to disseminate the principles of geriatric medicine to other that are increasingly dealing (and being overwhelmed by) with the complexity of an aging patients' population.[16] Under this perspective, the SARC-F helps raise awareness in the clinician on essential but largely neglected clinical and physical issues of the older person that require special attention and may hide an underlying sarcopenic profile. In this context, we might agree with Voelker and colleagues[1] about the possibility of skipping the screening for sarcopenia and directly moving to the diagnostic phase. However, this may happen only if the condition of interest is adequately known by both patients and clinicians. We doubt that this is a possibility today. And also, what characteristics should a patient have to be considered for immediate diagnostic testing of sarcopenia? In busy primary care settings, including many geriatric evaluation and assessment units, it is unfeasible for practical and cost-effectiveness reasons to direct every older person to a full diagnostic evaluation of muscle mass and function. Also, to conduct a large-scale campaign for diagnosing sarcopenia would require the scientific community to at minimum agree on how to measure it (including which imaging methodology to adopt).

There is at least 1 additional point to consider when discussing instruments and cut-points. Do sensitivity and specificity matter the same, especially in older persons and geriatric medicine? Should we be worried that the low sensitivity of the SARC-F will result in the under-recognition of persons with sarcopenia? Or should we instead be satisfied that it can adequately exclude negative cases? Consistently with Ida and colleagues,[2] we believe that the moderate to high specificity of the SARC-F should indeed encourage its use because it spares from the burden of the diagnostic procedures persons who are unlikely to be sarcopenic. Consistently, what is the clinical rationale for introducing an older person (often with his or her frailties) into a diagnostic process if the key features of the condition of interest are absent? Is it clinically acceptable or feasible to pursue the diagnosis of sarcopenia in a person without phenotypic manifestations of skeletal muscle decline?

In conclusion, like every instrument in medicine, the SARC-F also has its limitations, but it is out there, well-recognized, and widely used. In clinical practice and especially in geriatrics, we are familiar with the need for pragmatism and flexibility in the use of diagnostic procedures and the reading of test results. The risk is that by trying to split the hair into halves, we might end up with leaving unmet the clinical needs of many patients. Voltaire once wrote that "perfect is the enemy of good." In the case of sarcopenia, to deny use of a good screening tool because it is imperfect is to give disservice to the very real need to expand evaluation for this important geriatric syndrome.

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