Bridging the Divide Between Knowledge and Application in the Clinical Practice of Sarcopenia

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Sarcopenia, characterized by the age-associated decline in skeletal muscle mass coupled with diminished muscle strength or/and reduced physical performance, has attracted significant research and clinical interest.1–4 The Asian Working Group for Sarcopenia (AWGS), in the years 2014 and 2019, issued diagnostic consensus statements which have garnered substantial citation and recognition within the scientific community.5,6 Comparing the diagnostic accuracy of the AWGS 2019 consensus with the previous AWGS 2014 guidelines using a prospective cohort of 731 community-dwelling adults aged ≥ 65 years, it was found that AWGS 2019-defined sarcopenia was associated with a significant mortality risk (HR = 1.62, 95% CI 1.04–2.54, p = 0.034) after accounting for confounders, while AWGS 2014-defined sarcopenia was not.7 The AWGS 2019 criteria exhibited better predictive capability for mortality and were superior in identifying sarcopenia-related mortality risk, suggesting their potential utility in improving health outcomes for older adults. Besides, the AWGS also offers practical guidance on areas including malnutrition, dietary factors, supplementation, lifestyle interventions, and COVID-19’s impact, with the goal of enhancing equitable care for this population.8,9 Despite the diligent research efforts of the AWGS, the practical application of sarcopenia screening, diagnosis, and treatment within clinical practice remains ambiguous.

Recently, the AWGS published an online survey to investigate sarcopenia management practices among healthcare professionals in Asia. Overall, 1990 participants revealed that while awareness of sarcopenia was high (99.3% knew the term, 91.9% knew the definition, and 97.2% understood its importance), actual implementation was relatively lacking. Screening, diagnosing, and treating sarcopenia were reported by 42.4%, 42.9%, and 58.8% of respondents, respectively. Medical doctors and especially geriatricians had higher rates of performance compared to allied health professionals and non-geriatricians. The study highlights a gap in clinical practice and suggests the need for comprehensive education to improve sarcopenia management.10 While the lack of adherence to clinical practice guidelines or recommendations is not an uncommon occurrence11,12, the persistently existing gap poses a significant challenge in attaining optimal standards of clinical care. The guideline-practice gap in sarcopenia management may stem from multiple factors, with challenges in conducting...
accurate sarcopenia assessments within clinical contexts being a prominent factor. Additionally, the clinical dilemma persists due to the dearth of efficacious therapeutic options beyond resistance exercise and nutrition. To date, endeavors aimed at devising novel pharmacotherapeutic agents for sarcopenia persist; however, several candidate compounds have failed to exhibit substantial intervention effects when compared to exercise alone. Despite the achievement of augmenting muscle mass by certain pharmacological agents, muscle strength and physical performance continue to predominantly depend on resistance exercise.\(^\text{13,14}\)

The collaborative initiative of the World Health Organization (WHO) and the United Nations (UN), the UN Decade for Healthy Aging, advocates for the screening of intrinsic capacity in older adults. Elements of sarcopenia diagnosis, including assessments of mobility and vitality, have been incorporated into the evaluation of intrinsic capacity.\(^\text{15}\)

The AWGS has proposed the concept of “possible sarcopenia” (characterized by reduced muscle strength or/and decreased physical performance) as a target for promoting individualized care plans within the community,\(^\text{6}\) aligning with the intrinsic capacity assessment process. However, the accurate diagnosis of sarcopenia continues to hinge on precise measurements of muscle mass, which presents a substantial diagnostic challenge. Although healthcare facilities may possess the necessary equipment for these measurements, the associated costs might not yet be covered by health insurance schemes. Consequently, further research efforts are warranted to concentrate on formulating a more accessible diagnostic protocol for sarcopenia with established diagnostic precision. Nonetheless, instances of limited diagnostic yield can be attributed to the paucity of therapeutic options. Presently, the predominant recommendation for sarcopenia treatment comprises a combination of exercise and nutrition, although these suggestions fall within the realm of lifestyle modifications rather than clinical interventions. While certain nutraceuticals have exhibited noteworthy impacts on enhancing muscle mass or strength,\(^\text{16-18}\) their clinical efficacy is not universally recognized across many countries. Consequently, healthcare practitioners might exhibit a greater reliance on pharmaceutical agents for the clinical management of sarcopenia.

Given the well-documented association between sarcopenia and adverse clinical outcomes, the formulation of a comprehensive strategy encompassing screening, prevention, diagnosis, and treatment becomes imperative. In alignment with the WHO’s approach to healthy aging, a significant paradigm involves transitioning sarcopenia diagnosis and intervention from treatment to prevention, with an emphasis on maintaining optimal muscle health starting from mid-life. As observed in various chronic conditions, an early preventive stance substantially alleviates the subsequent clinical burdens associated with disease management. Integrating sarcopenia screening within the framework of intrinsic capacity assessment is justifiable, considering the pivotal role of skeletal muscle health in the context of healthy aging.\(^\text{19}\)

However, for the effective management of chronic conditions in older adults, individual countries’ healthcare systems need to formulate and implement supportive measures that facilitate both the diagnosis and treatment (pharmacological or non-pharmacological) of sarcopenia. Yamada et al.’s investigation revealed that geriatricians exhibited the highest levels of awareness pertaining to sarcopenia, encompassing its diagnosis and treatment.\(^\text{10}\)

Other medical specialties demonstrated a particular interest in sarcopenia when associated with concurrent clinical conditions, presenting a significant avenue for prospective research by the AWGS. Additionally, augmenting the awareness within disciplines specializing in geriatric care holds potential for advancing clinical outcomes among older individuals with diverse health conditions. Conversely, within primary healthcare systems, the integration of sarcopenia prevention and treatment into the comprehensive management of chronic conditions should be contemplated as an integral facet of the WHO’s Integrated Care for Older People initiative. Ensuring the incorporation of sarcopenia prevention, diagnosis, and treatment across all clinical contexts emerges as a pivotal requirement for promoting healthy aging through a meticulously harmonized approach. Significantly, the occurrence of sarcopenia has been linked to cognitive impairment, a correlation of substantial relevance in the context of promoting healthy aging.\(^\text{20-22}\)

The adoption of a life-course perspective for the enhancement of skeletal muscle health assumes significance due to its consequential implications on clinical advantages encompassing mobility, cognition, and cardiometabolic well-being—all pivotal determinants contributing to the overarching goal of facilitating healthy aging.

Being a distinct and defined medical condition (ICD-10: M62.84), sarcopenia warrants heightened focus within clinical environments, spanning across the spectrum from preventive measures to diagnostic and therapeutic interventions. Healthcare practitioners are urged to formulate individualized care strategies for elderly individuals, with an emphasis on thwarting the onset of disability and dementia, given the pivotal role played by muscle health in these outcomes. Furthermore, the advancement of pharmacological treatments holds significance in ameliorating the health vulnerabilities linked to sarcopenia. Effective collaboration between healthcare providers, healthcare systems, and governmental bodies is imperative to facilitate prompt identification of sarcopenia and to instigate essential lifestyle adjustments and clinical interventions.\(^\text{24}\)

Notably,
within the context of the UN Decade of Healthy Aging, governmental entities are poised to adopt a comprehensive outlook aimed at fostering healthy longevity for the older people, both presently and in subsequent generations, where the recognition of sarcopenia stands as a critical constituent in the trajectory toward fostering a state of healthy aging.

REFERENCES


