

Paper Category:	Diagnosis and etiology
Paper Title: (Arial Font; 14 Pt Size)	Comparison of three InBody-770 Bioelectrical Impedance Analysis Cut-offs for Sarcopenia Diagnosis amongst Community-Dwelling Older Adults in Singapore
Abstract Body: (Arial Font; 12Pt Size)	<ul style="list-style-type: none"> • Background • Objectives • Method • Results • Discussions and Conclusions
(Maximum word limit - 300 words)	
<p>Background</p> <p>Though recommended by the Asian Working Group for Sarcopenia (AWGS-2019) for appendicular lean mass (ALM) assessment, cut-offs for bioelectrical impedance analysis (BIA) remain to be validated in our local setting. A recent study reported that AWGS-2019 cut-offs were too high compared to readings from the InBody-770 multi-frequency BIA and proposed using Yamada's equation or 20th centile cut-offs.</p> <p>Objectives</p> <p>To compare AWGS-2019, Yamada-adjusted and 20th centile cut-offs for: 1) prevalence of low ALM/Height² (ALMI) and sarcopenia; and 2) association of sarcopenia diagnosis with frailty, functional, and muscle strength outcomes.</p> <p>Method</p> <p>We examined 189 healthy community-dwelling older adults (73% females, mean age=66.8±7.1 years, mean FRAIL score=0.28±0.5) from the GeriLABS-2 cohort study. Using the three cut-offs, we used Inbody-770-derived ALMI to determine low muscle mass and sarcopenia diagnosis. We performed binary logistic regression to determine association of sarcopenia with frailty status (Fried's phenotype>1); reduced physical activity (International Physical Activity Questionnaire [IPAQ]<2826 METs and Life-space Activity [LSA]≤76); and reduced knee extension strength.</p> <p>Results</p> <p>AWGS-2019 yielded the highest prevalence, followed by 20th centile and Yamada-adjusted cut-offs (low ALMI: 47.1% vs 32.8% vs 18.0%; sarcopenia: 18.0% vs 13.2% vs 7.4%). Across all three cut-offs, sarcopenic subjects were older, predominantly men, with lower body mass index (BMI) and nutritional scores (p<0.05). Adjusting for age, gender, BMI and vascular risk score, all three cut-offs demonstrated significant association of sarcopenia with frailty (OR range=8.20-12.90) and knee extension strength (OR range=8.82-16.3). Only Yamada-adjusted cut-offs showed a trend for sarcopenia with physical activity (IPAQ: OR=2.63, 95%CI=0.88-7.80; LSA: OR=2.43, 95%CI=0.90-6.50).</p> <p>Discussions and Conclusions</p> <p>BIA cut-offs for sarcopenia should account for specific population and model type. For the InBody-770 model, whereas AWGS-2019 may over-estimate sarcopenia</p>	

prevalence, Yamada-adjusted cut-offs yielded sarcopenia prevalence consistent with larger Asian population studies and showed good association of sarcopenia diagnosis with frailty, strength and functional outcomes.

Date of Submission: 15/08/2023

Total number of words: 291

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