GeronLab LABORATÓRIO DE PESQUISA EM ENVELHECIMENTO HUMANO

Prevalence of sarcopenia and its associated factors: the impact of muscle mass, gait speed and handgrip strength reference values on reported frequencies

Virgílio Garcia Moreira, Mariângela Perez, Roberto Alves Lourenço

Email: virgilio.garcia.moreira@gmail.com

Aim

- Estimate the prevalence of sarcopenia and its associated factors in 745 community-dwelling individuals, 65 +, from the Fibra-RJ study, Rio de Janeiro, Brazil,
- Discuss the impact of different muscle mass, handgrip strength and gait speed cutoff values on sarcopenia frequencies.

Method

Sarcopenia criteria: muscle mass, handgrip strength and gait speed

Sarcopenia strata: no sarcopenia; pre-sarcopenia; sarcopenia; severe sarcopenia

Cutoff points: 1. tailored to the sample population 2. EWGSOP

Multivariate analyses: dependent variable – sarcopenia; dependent variable - health habits, functional capacity, anthropometric measures

Results

Female: 70.3%; Mean age: 76.6 years.

Sarcopenia prevalence:

Sample-tailored cuttoff points - 10.8%; EWGSOP cuttoff points: 18%

Associated factors: advanced age; Caucasian race; single marital status; low income; and comorbidities

Sample tailored and EWGSOP-proposed cutoff values

	Cutoff values by gender			
	Men		Women	
	BMI	Handgrip strength (kgf)	BMI	Handgrip strength (kgf)
Muscle strength	≤ 22.40	16.8	≤ 24.12	13.3
	22.40 < to ≤ 25.51	23.3	24.12 < to ≤ 26.92	14
	25.51 < to ≤ 28.33	23.3	26.92 < to ≤ 30.26	14
	> 28. 33	23.4	> 30.26	14.7
	Height (m)	Gait speed (m/s)	Height (m)	Gait speed (m/s)
Physical performance	≤ 1.68	< 0.65	≤ 1.54	< 0.60
	> 1.68	< 0.73	> 1.54	< 0.69
Muscle mass	8.83		6.64	

[a] BMI - Body Mass Index; [b] Muscle strength estimated trough handgrip strength using Body Mass Index quartile and the sex-specific lowest quintile; [c] Physical performance estimated through gait speed using time of usual pace for 4.6 meters using median height and sex-specific lowest quintile;[d] Muscle mass estimated through anthropometric measurement with sex-specific lowest quintile (kg/m²).

Sarcopenia prevalence with sample tailored and EWGSOP cutoff points

		Male (n %)	Female (n %)	Total (n %)
Fibra-RJ	Robust	177 (80.1)	421 (80.7)	598 (80.5)
	Pre-sarcopenia	26 (11.8)	39 (7.5)	65 (8.7)
	Sarcopenia	12 (5.4)	39 (7.5)	51 (6.9)
	Severe sarcopenia	6 (2.7)	23 (4.4)	29 (3.9)
EWGSOP	Robust	177 (80.1)	421 (80.7)	598 (80.5)
	Pre-sarcopenia	9 (4.1)	2 (0.4)	11 (1.5)
	Sarcopenia	20 (9)	42 (8)	62 (8.3)
	Severe sarcopenia	15 (6.8)	57 (10.9)	72 (9.7)

Conclusion

Higher prevalence of sarcopenia was observed with the cutoff values of muscle mass, handgrip strength and gait speed suggested by EWGSOP. Probably, to estimate sarcopenia frequencies it is better to use population-specific reference values.