VALIDATING THE SARC-F SCREENING TOOL FOR SARCOPENIA AMONG PEOPLE AGING WITH HIV

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INTRODUCTION

- People living with HIV (PLWH) are increasingly impacted by comorbidities associated with aging, including sarcopenia.
- Several consensus definitions have been developed for sarcopenia based upon combined muscle mass, performance and strength assessments.
- Because these approaches are not practical for routine clinical settings, the 5-item **S**trength, **A**mbulation, **R**ising from a **C**hair, and history of **F**alling (SARC-F) questionnaire was developed to screen for sarcopenia in the general population. However, to date this tool has not been validated among PLWH.

METHODS

- We recruited PLWH ≥45 at three HIV clinics in Lima, Peru.
- Patients completed:
  - Demographic and clinical surveys,
  - The validated Spanish language SARC-F (score range: 0-10, score ≥4 indicating a high likelihood of sarcopenia),
  - The Short Physical Performance Battery, grip strength assessment with a Jamar dynamometer, and a dual-energy x-ray absorptiometry body composition scan to assess appendicular skeletal muscle index.
- Sarcopenia spectrum was classified based on the European Working Group on Sarcopenia in Older People (EWGSOP 2010 and 2019) and the Asian Working Group on Sarcopenia (AWGS) reference standards.
- Sex-based differences in sarcopenia spectrum were analyzed using χ^2 or Fisher's exact tests.
- Validity of SARC-F compared to EWGSOP and AWGS was assessed with sensitivity (S), specificity (Sp), positive and negative predictive values (PPV/NPV), and area under the receiver operating curve (AUC).

RESULTS:

- We enrolled 210 PWH (105 women, 105 men) with mean ages of 55.2±7.1 and 54.8±7.6, respectively.
- Sarcopenia spectrum was more prevalent in women compared with men (Table 1), based upon the EWGSOP 2019 and AWGS definitions. 22.7% of participants had a SARC-F score ≥4.

Table 1: Prevalence of sarcopenia spectrum, by sex, and SARC-F validation metrics by EWGSOP and AWGS reference standard.

	EWGSOP (2010)		EWGSOP (2019) *		AWGS (2019) ǂ	
	Women	Men	Women	Men	Women	Men
Sarcopenia spectrum, n (%)						
Normal	57 (54.3%)	65 (61.9%)	65 (61.9%)	82 (78.1%)	56 (53.3%)	79 (75.2%)
Presarcopenia	19 (18.1%)	21 (20.0%)	25 (23.8%)	10 (9.5%)	32 (30.5%)	10 (9.5%)
Sarcopenia	23 (21.9%)	16 (15.2%)	10 (9.5%)	11 (10.5%)	13 (12.4%)	14 (13.3%)
Severe sarcopenia	6 (5.7%)	3 (2.9%)	5 (4.8%)	2 (1.9%)	4 (3.8%)	2 (1.9%)
Sensitivity, specificity, predictive values and AUC of SARC-F score ≥4 compared to reference standards						
Sensitivity (95%CI)	39.6% (25.8%-54.7%)		39.3% (21.5%-59.4%)		39.4% (22.9%-57.9%)	
Specificity (95%CI)	82.7% (76%-88.2%)		80.2% (73.7%-85.7%)		80.8% (74.2%-86.3%)	
PPV (95%CI)	40.4% (26.4%-55.7%)		23.4% (12.3%-38%)		27.7% (15.6%-42.6%)	
NPV (95%CI)	82.2% (75.5%-87.7%)		89.6% (83.8%-93.8%)		87.7% (81.7%-92.3%)	
AUC (95%CI)	0.66 (0.57-0.75)		0.67 (0.57-0.77)		0.67 (0.57-0.77)	

*A statistically significant difference in sarcopenia spectrum prevalence by sex was observed ($p<0.05$)
ǂ A statistically significant difference in sarcopenia spectrum prevalence by sex was observed ($p<0.01$)
CI: confidence interval; EWGSOP: European Working Group on Sarcopenia in Older People; AWGS: Asian Working Group on Sarcopenia

CONCLUSIONS

- To our knowledge, this is the first study to investigate the validity of using the SARC-F tool among PLWH.
- Using the cutoff of 4, SARC-F shows acceptable specificity, low sensitivity and moderate discrimination for sarcopenia.
- Future work will explore performance of SARC-F in PLWH using alternative cut-points to best evaluate how it can be integrated into interventions in settings where it is not feasible to perform multi-component tests for sarcopenia.



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