



Prevalence of and Factors Associated with **Sarcopenic Obesity** in People Living with HIV

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Background:

Sarcopenic obesity(SO) is a metabolic condition defined by increased fat mass combined with reduced muscle mass and function [1], driven by aging and chronic inflammation. People living with HIV(PLWH) are at increased risk of SO. Prevalence and associated factors of SO are scarce in Thailand.

Methods:

Between September 2024 and May 2025, a cross-sectional study was conducted to determine the prevalence and factors associated with SO in PLWH at Siriraj hospital. PLWH aged 20-79 years and had been diagnosed HIV for at least 12 months were included. Hand grip strength and five-time sit-to-stand test were assessed. Body composition was measured using bioelectrical impedance analysis (BIA).

Results:

Of 312 PLWH, median age was 53 years(IQR 44–60), 54.3% were male and median duration of HIV was 18 years(IQR 11-22). The prevalence of SO was 7.3% (95% CI: 4.87–10.81%). No significant associations were observed in initial multivariable analysis. However, dose–response analysis revealed associations between cumulative exposure to specific ART drugs and SO. A significant trend was noted with protease inhibitors(PIs) and abacavir(ABC), while stavudine (d4T) and ABC showed threshold effects at higher quartiles of exposure.

Conclusions:

Prolonged exposure to certain antiretroviral drugs, especially PIs, d4T, and ABC, may contribute to SO in PLWH. These findings highlight the importance of personalized drug selection and support the need for future prospective study to assess causal relationship of factors associated with SO and health outcomes in this population.

Table 1: Dose–response relationship between cumulative antiviral therapy (by quartiles) and sarcopenic obesity

	Quantitative ART use							P for trend
	Q1 (reference)	Q2		Q3		Q4		
	OR (95%CI)	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value	
PIs		N/A	0.999	0.292 (0.034-2.532)	0.264	0.583 (0.058-5.844)	0.144	0.043
d4T		2.100 (0.432-10.212)	0.358	0.933 (0.174-5.007)	0.936	6.300 (1.745-22.743)	0.005	0.191
ABC		2.407 (0.322-17.979)	0.392	9.630 (1.028-90.164)	0.047	1.204 (0.105-13.838)	0.882	0.047

[1] Donini LM, Busetto L, Bischoff SC, Cederholm T, Ballesteros-Pomar MD, Batsis JA, Bauer JM, Boirie Y, Cruz-Jentoft AJ, Dicker D, Frara S, Frühbeck G, Genton L, Gepner Y, Giustina A, Gonzalez MC, Han HS, Heymsfield SB, Higashiguchi T, Laviano A, Lenzi A, Nyulasi I, Parrinello E, Poggiogalle E, Prado CM, Salvador J, Rolland Y, Santini F, Serlie MJ, Shi H, Sieber CC, Siero M, Vettor R, Villareal DT, Volkert D, Yu J, Zamboni M, Barazzoni R. Definition and Diagnostic Criteria for Sarcopenic Obesity: ESPEN and EASO Consensus Statement. *Obes Facts*. 2022;15(3):321-335. doi: 10.1159/000521241. Epub 2022 Feb 23. PMID: 35196654; PMCID: PMC9210010