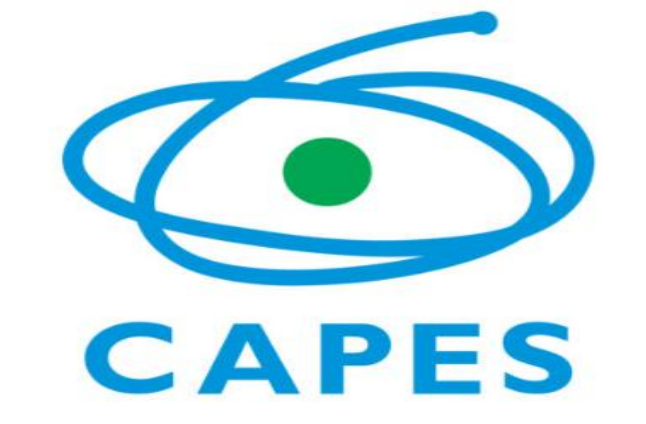
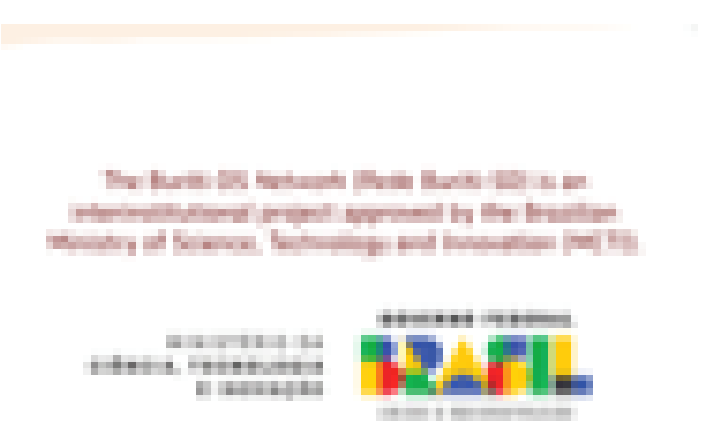


Medication Burden Vs. Biological Aging: Determinants Of Frailty in Adults With Down Syndrome

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In our cohort, medication burden is the most robust independent predictor of deficit accumulation; each additional medication associates with 36% increased odds of clinical frailty. Pharmacological management represents critical strategy for frailty prevention, superseding traditional cardiovascular risk factors.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
Down syndrome (DS) is characterized by accelerated aging, which predisposes individuals to a higher frailty burden at earlier chronological ages relative to the general population.¹ Frailty, a dynamic state of increased vulnerability resulting from the multisystem accumulation of physiological deficits, is effectively quantified through a Frailty Index (FI).² This study examined the clinical and anthropometric determinants of frailty within a cohort of 151 adults with DS.	Frailty was operationalized using a FI based on the cumulative deficit model incorporating 35 health deficits. Multivariable linear regression was employed to evaluate the association between the FI and independent variables, including age, drugs per day (DpD), body mass index (BMI), systolic and dyastolic blood Pressure (SBP and DBP), heart rate (HR), and gender (male). Logistic regression was performed to identify DpD and BMI as potential predictors of clinical frailty (CF), defined as FI > 0.25.	Of the 151 participants enrolled, 2 were excluded due to insufficient data for FI calculation. Within this cohort, 43% were female, with a mean age of 37.9 (SD 11.1) years. The mean FI was 0.17 (SD 0.1), with 14.8% of the cohort meeting the criteria for CF. The multivariable linear regression model demonstrated that DpD (p<0.01) was the most robust independent predictor of deficit accumulation, followed by BMI (p=0.05). DBP (p= 0.08), HR (p=0.09) had statistical trend, while age, SBP, and gender were not significantly associated with the FI. In the logistic regression analysis, each drug increase in DpD was associated with a 36% increase in the odds of CF (p<0.01), whereas BMI lost statistical significance (p=0.31)	In this cohort, medication burden emerged as the primary independent driver of frailty, outweighing traditional cardiovascular and demographic factors. These findings highlight the critical need for vigilant pharmacological management as essential component of frailty prevention, even in patients with stable BMI and hemodynamic profiles to optimize longitudinal health outcomes and quality of life.	¹Bellelli F, Consorti E, Garlini S, et al. Frailty in Persons with Down Syndrome: Results from the REVIVIS Study. <i>J Am Med Dir Assoc.</i> 2024;25(11):105239. doi:10.1016/j.jamda.2024.105239 ²Theou O, Haviva C, Wallace L, Searle SD, Rockwood K. How to construct a frailty index from an existing dataset in 10 steps. <i>Age Ageing.</i> 2023;52(12):afad221. doi:10.1093/ageing/afad221 CONTACT  Vinicius.leduc@hc.fm.usp.br  AAIC>26