Hypertension: a major factor in low verbal fluency among People Aged 50+ Living with HIV in Senegal

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BACKGROUND

- Decline in verbal fluency, observed in both ageing and HIV infection, is one of the first cognitive functions to decline, many years before the clinical diagnosis of dementia, and is associated with reduced quality of life
- Cardiometabolic diseases are reported to be associated with neurocognitive disorders, including verbal fluency, in Western countries, but their association is not well documented in Sub-Saharan Africa, particularly in older people living with HIV (PLWH).
- **Aim**: To identify factors associated with verbal fluency performance in older PLWH in West Africa

METHODS

- **Inclusion:** PLWH aged ≥50 years & on ART for ≥6 months were enrolled at two HIV clinics in Dakar, Senegal
- **Verbal fluency:** assessed by using the Isaacs Set Test (IST) which consists to name the maximum number of words belonging to a specific semantic category within 15 seconds ("animals“)
- **Other collected data :** sociodemographic data, cardiometabolic disorders (e.g., hypertension, diabetes, dyslipidemia), and depressive symptoms using PHQ-9 questionnaire
- **Statistical analyses:** multivariate linear regression (with backward selection, p<0.05), adjusted for age, gender, education level and HIV clinics

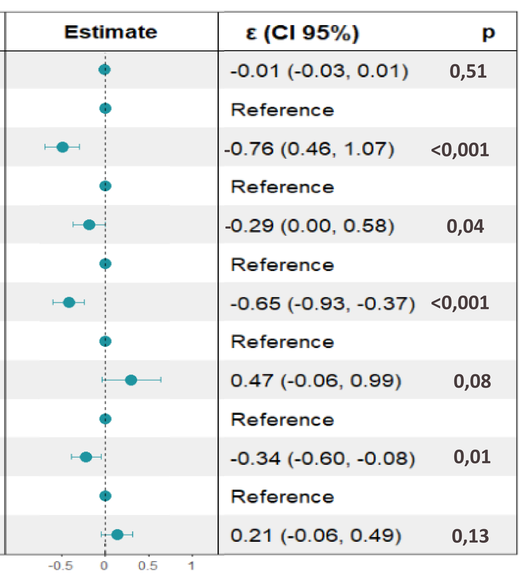
Among older West African PLWH, hypertension was associated with low verbal fluency performance

RESULTS

- Of **290 PLWH included** with a median age of 58 years (IQR: 53-62): 50% had hypertension, 40% had dyslipidemia, 14% had diabetes and 18% had depressive symptoms. The mean CD4 count is 731 cells/mm³ (SD: 334), with 9% of participants having a detectable viral load
- In the final model, low verbal fluency, as reflected by **a reduction of IST-15-seconds score were significantly associated with hypertension (β=-0.3, p=0.01),** female sex (β=-0.8, p= <0.001), low educational level (β=-0.3, p=0.04) and HIV-clinics (β=-0.6, p=<0.001)
- No association was found with age, cardiometabolic disorders (i.e. diabetes or dyslipidemia) and specific HIV clinical outcomes (i.e. CD4 count or viral load)

Figure 1: Factors associated with cognitive performances at 15 seconds from the Isaacs Set test, NeuroCam cohort (n=290)

Variable		Estimate	ε (CI 95%)	p
Age			-0.01 (-0.03, 0.01)	0,51
Sex	Male		Reference	
	Female		-0.76 (0.46, 1.07)	<0,001
Education	Secondary or more		Reference	
	Primary or less		-0.29 (0.00, 0.58)	0,04
Centers	SMIT Dakar		Reference	
	CTA		-0.65 (-0.93, -0.37)	<0,001
Depression	Absence of depressive symptoms		Reference	
	Presence of depressive symptoms		0.47 (-0.06, 0.99)	0,08
Hypertension	Normotensive		Reference	
	Hypertensive		-0.34 (-0.60, -0.08)	0,01
Dyslipidemia	No		Reference	
	Yes		0.21 (-0.06, 0.49)	0,13



Note: Hypertension = systolic blood pressure (BP) ≥ 140 mmHg OR diastolic BP ≥ 90 mmHg OR history of hypertension treatment

CONCLUSIONS

- Hypertension was associated with reduced verbal fluency performance among older West African PLWH
- This underscores the **urgent need for effective hypertension management** in this population of PLWH, given the high prevalence of the condition

ADDITIONAL KEY INFORMATION

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