Verbal learning and memory in well-controlled HIV is similar to HIV-uninfected individuals in Rakai, Uganda

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Background:

- Cognitive impairment is common in people with HIV (PWH) in the global north especially in verbal learning and memory.
- Notably, cardiometabolic risk factors, its complications and substance misuse have been associated with cognition.
- In Rakai, Uganda, these complications are less common in middle-aged PWH.

There was no statistical difference in learning and memory impairment among HIV infected and HIV- uninfected individuals in rural Rakai, Uganda

Objective:

- We examined the degree to which HIV-serostatus affects learning and memory in PWH and people without HIV (PWoH) in Rakai, Uganda

Methods:

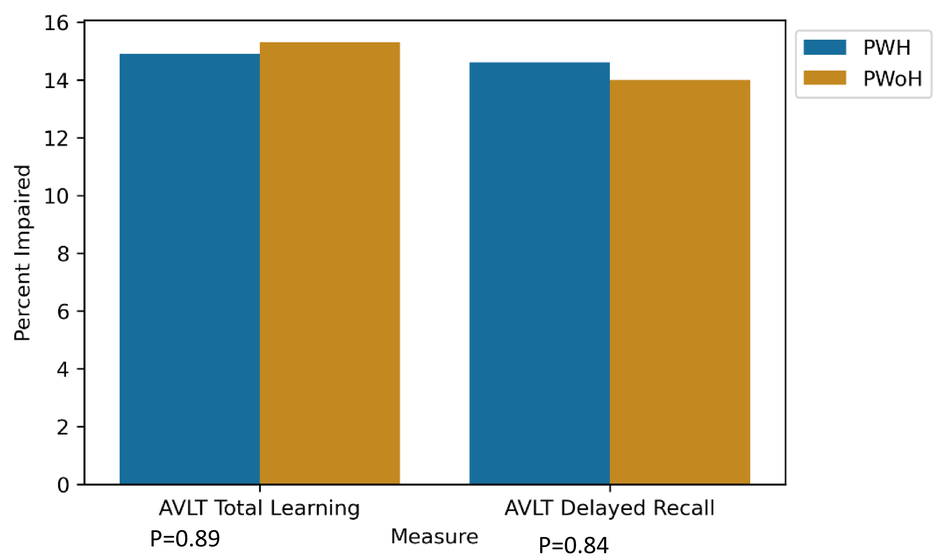
- Participants enrolled through the Rakai Community Cohort Study (350 PWH; 250 PWoH) were administered the WHO–Auditory Verbal Learning Test to measure learning and delayed recall.
- Trained research staff used the local language Luganda.
- Demographically-adjusted (age, sex, education) z-scores were established using locally derived data from PWoH.
- Impairment was defined as one standard deviation below PWoH (z-score <1).
- The two groups were compared using a Chi-Square Test.

Results

Table 1. Demographic and Clinical Characteristics of Participants

Characteristic	PWH N (350)	PWoH N (250)	P value
Age mean,yrs	44	43	0.53
Sex:male	48%	54%	0.11
Years of education	6	5.8	0.31
Obesity	9%	12%	0.01
History of diabetes	0.6%	0.3%	0.03
Hypertension	5%	6%	0.41
Tobacco Use	10.9%	7.4%	0.16
Narcotics use	1.1%	2.2%	0.32
Viral suppression (HIV RNA <40 cp/mL)	94%	N/A	

Figure 1. Total Learning and recall scores in PWH vs PWoH



Discussion:

- PWH on long term ART had relatively few cardiometabolic comorbidities.
- There was a low prevalence of verbal learning or memory impairment which was similar for PWH and PWoH.
- The use of alcohol and other substances among participants was very low.
- This study reveals the changing face of neurocognitive function among PWH.

Conclusion:

- PWH on long term ART have similar learning and memory function as compared to PWoH .
- The Rakai cohort may be at risk for developing cognitive impairment as they age and experience the emergence of age-related health comorbidities.

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