Cognitive aging is premature among a community sample of optimally treated Australian living with HIV

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Background:
While some research has indicated that there may be premature cognitive aging among people living with HIV (PLHIV), results are derived from non-community samples with suboptimal combination antiretroviral therapy (cART) access and virological control. The current study assessed whether age and HIV status interact to lead to premature cognitive aging among a community sample of PLHIV with high cART coverage and their age and lifestyle-matched HIV negative (HIV-) counterparts while considering the mental health and non-HIV comorbidity burden.

Methods:
This study enrolled 254 HIV+ and 72 HIV- gay and bisexual men (mean age = 49 years; SD=10.2) from Holdsworth House Practice in Sydney. Neurocognitive function was evaluated with the Cogstate Computerized Battery (CCB) at baseline and 6 months assessing speed of processing, attention/working memory, and verbal learning and memory. Linear mixed-effect models examined main and interaction effects of HIV status and chronological age on CCB age-uncorrected global neurocognitive z-score (GZS) adjusting for repeated testing, and then adjusting sequentially for HIV biomarkers, mental health, and comorbidities.

Results:
The majority of HIV+ participants were on cART (92%) and were virally suppressed (84%). Only 15% had a history of HIV disease CDC stage C. HIV positive status and age interacted to produce lower GZS (β=-0.43 (95% CI=-0.85, -0.02), p<0.05). Among covariates, a higher level of con-current anxiety symptoms (β=-0.11 (95% CI=-0.19, -0.04), p<0.01), historical AIDS (β=-0.12 (95% CI=-0.22, -0.03), p<0.05), and historical HIV brain involvement (β=-0.12 (95% CI=-0.22, -0.01), p<0.05) were associated with lower GZS.

Conclusion:
We found a robust medium size premature aging effect on cognition in a community sample with optimal HIV care. Our study supports routine screening of cognitive and mental health among older PLHIV.

Disclosure of Interest Statement: