Cognitive interventions and cognitive training in adults with HIV: a state of the science

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Introduction: Combination antiretroviral therapies hinder HIV viral replication, allowing people to age with HIV. With over 50% of adults with HIV over 50+, this challenges the concept of successful neurocognitive aging. Unfortunately, over 50% of HIV+ adults experience HIV-Associated Neurocognitive Disorder ranging from milder forms (i.e., Asymptomatic Neurocognitive Impairment or Mild Neurocognitive Disorder) to a more severe form (i.e., HIV-Associated Dementia). Yet, even such milder neurocognitive impairments can interfere with financial and medication management, driving, and other instrumental activities of daily living that impact quality of life and survival. As this clinical population continues to age well into late adulthood, these milder forms of neurocognitive impairment may be accelerated or accentuated resulting in more severe neurocognitive and functional loss. Objective/Aim: Researchers and clinicians need to identify medical and lifestyle factors that facilitate positive and negative neuroplasticity in this population in order to promote cognitive reserve. Methods/Results: In an ongoing review of the literature, factors that promote positive neuroplasticity include good sleep hygiene, physical exercise, good nutrition, social engagement, and cognitive stimulation. Factors that promote negative neuroplasticity include comorbidities (i.e., diabetes, cardiovascular disease), substance abuse, trauma and stress, social isolation, and loneliness. In this presentation, current research to improve positive neuroplasticity in older adults with HIV emphasizes the use of computerized speed of processing, transcranial direct current stimulation, and their combined used. Conclusion: Emerging insights from the first large longitudinal study (The Think Fast Study) investigating a cognitive training protocol in older adults (40+) with HIV are provided as an exemplar.