

Categories: Infectious Disease
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54 Age-Related Differences in the Associations Between Cannabis Use and Cognition in People Living with HIV (PLWH)

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Objective: PLWH report using cannabis for both recreational reasons and HIV symptom management (e.g., nausea, pain, depression/anxiety). Recent literature suggests that cannabis may attenuate HIV symptoms and neuroinflammation, which are strongly related to neurocognition. Additionally, older adults who are particularly vulnerable to cognitive impairment experience a decline in the endogenous cannabinoid system with age. Therefore, the aims of the present study were 1) to determine if cannabis use is associated with cognitive performance in PLWH, 2) to determine if age moderates the relationship between cannabis use and cognition in PLWH, and 3) to determine if there are differences in cognition in cannabis non-users, occasional users, and daily users among PLWH.

Participants and Methods: The sample included 225 PLWH (78% undetectable; 51% female, Mean age=49.10) who were classified as non-users (n=52), occasional users (n=53), or daily users (n=120). Cannabis use was measured via the Timeline Follow-back (TLFB). Cognition was examined using the NIH Toolbox Cognition Battery, which included measures of attention, working memory, executive function,

processing speed, and episodic memory, as well as a fluid cognition composite score.

Results: Increased frequency of cannabis use was weakly positively associated with episodic memory performance, $r(224) = 0.15$, $p < 0.05$. Results of the multiple regression indicate that frequency of cannabis use was not significantly associated with any of the six cognitive domains. However, there was a significant interaction between age and cannabis use in the domains of attention ($\beta = 0.13$, $p < 0.05$), working memory ($\beta = 0.12$, $p < 0.05$), and episodic memory ($\beta = 0.15$, $p < 0.05$), suggesting worse cognitive performance in older adults who use cannabis as compared to younger adults in this sample. When participants were grouped based on use status, there were no significant main effects of group.

Conclusions: After controlling for the effects of demographic factors and HIV disease severity, no significant negative associations between cannabis use and cognition were observed, suggesting that cannabis use is not related to cognitive impairment in PLWH. However, results were clarified by a significant interaction, indicating that older adults who use cannabis perform worse in the domains of attention, working memory, and episodic memory compared to younger adults, suggesting synergistic cognitive effects of age and cannabis use. We additionally found preliminary evidence for a potential positive effect of cannabis use on episodic memory in the overall sample. Future studies examining biological and behavioral mechanisms of improvement will be necessary to better examine this relationship.

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55 Health literacy mediates racial differences in cognitive functioning among people with and without HIV

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