

Cross-Sectional and Longitudinal Studies of Medication Adherence and Cognition among HIV+ Adults: Comparison between Optimal Adherers, Sub-Optimal Adherers, and Poor Adherers

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Objective

The advent of antiretroviral medications has resulted in significant declines in HIV-related morbidity and mortality. Near-perfect adherence, however, is needed for such medication to work effectively. Cross-sectional studies have shown that medication adherence is associated with neurocognitive functioning. The present study extends this line of research by examining neurocognition in three select groups of adherers both cross-sectionally and longitudinally.

Participants and Methods

Participants included 276 HIV-positive individuals who underwent neurocognitive testing at study entry and 215 HIV-positive individuals who underwent repeated neurocognitive testing six months later. Medication adherence was assessed continuously over the course of the six months using electronic monitoring devices. Based upon overall adherence rates, participants were grouped as 1) optimal (90-100%; N = 49), 2) sub-optimal (60-89%; N = 69) and 3) poor (0-59%; N = 158) adherers.

Results

At baseline, significant differences between groups were found on learning ($p < .01$), executive functioning ($p < .05$), motor ($p < .05$), and global functioning ($p < .05$). Post hoc analyses showed that both the optimal and sub-optimal adherence groups had better learning than poor adherers. The sub-optimal adherers also had better global cognitive functioning than poor adherers. There were no differences between the optimal and sub-optimal adherers. There was a significant group by time interaction on global functioning such that the poor-adherers failed to demonstrate cognitive improvement over time.

Conclusions

From both a cross-sectional and longitudinal perspective, medication adherence levels are associated with cognition over time. This underscores the importance of monitoring neuropsychological functioning among HIV+ patients.

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