

## **Cognitive impairment on risk behaviors among HIV+ adults over and under 50 who use alcohol**

**Objective:** To understand the impacts of alcohol abuse and HIV on cognitive functioning of adults and identify which cognitive assessments might best predict impairment for this population.

**Background:** HIV-associated neurocognitive disorders (HAND) is a serious problem among persons living with HIV (PLWH) and affects episodic memory, information processing speed, attention, and psychomotor speed. HAND also affects treatment adherence, engagement in care, condom use, HIV/STD knowledge, and sex risk behaviors and is exacerbated by drug and alcohol abuse and mental illness.

**Methods:** Assessments were conducted as part of a group intervention to reduce risk among HIV-positive adults (N=271) with a history of alcohol abuse. Measures included: Color Trails Test 2, Short Category Test, Auditory Verbal Learning Test, sex trading behaviors, STD/HIV knowledge, condom use skills, number of unprotected sex episodes, total drinking and drug use. Linear regression assessed associations between NC instruments and risk/protective behaviors, controlling for age and degree of alcohol abuse (via AUDIT).

**Results:** The mean age of participants was 44.6 years old, 63% were male, 75% were Black, and 8.1% were employed. Average years living with HIV was 12.5. Seventy percent scored high on impairment,  $\geq 1$  SD below normative means on  $\geq 2$  NC measures. Split by high/low impairment, high impairment performed significantly worse on STD/HIV knowledge and condom skills. When split by age (<50 years old and 50+), older were more likely to display poorer condom skills and poorer HIV/STD knowledge than younger participants and were significantly more likely to be deemed impaired. The Color Trails Test 2 was the only measure that consistently predicted STD/HIV knowledge, sex trading behavior and having ever had any STDs.

**Conclusions:** While NC impairment may not necessarily be reversed, certain cognitive remediation strategies, as well as avoidance of illicit drugs and alcohol, have been shown to help prevent onset or advancement of age-related cognitive decline. Antiretroviral treatments have markedly decreased HIV-associated dementia. These results highlight the importance of assessing cognitive skills early, utilizing appropriate tools like CTT 2. Risk reduction strategies may be tailored based upon type and degree of impairment.