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“Dementia Risk in People with HIV: Influence of Age, Pain Symptoms, and Alcohol Use”

Background: People with HIV (PWH) are at increased risk for HIV-associated dementia (HAD) as they age. Chronic pain and alcohol use disorder (AUD) are also highly prevalent in PWH and may represent critical factors associated with cognitive decline, although their independent contributions are not fully understood. This study examined the effects of self-reported pain symptoms and alcohol use on cognitive function in a cohort of PWH. We hypothesized that age, increased pain symptoms, and AUD risk would be associated with a heightened risk of HAD.

Methods: Data collected from participants (n= 381; 68.8% male; mean age 48 ± 10 years) enrolled in the New Orleans Alcohol Use in HIV (NOAH) study were utilized for cross-sectional analysis. Cognitive function was assessed using the International HIV Dementia Scale (IHDS), AUD risk was measured using the Alcohol Use Disorders Identification Test (AUDIT), and pain symptoms was assessed using questions 21 and 22 from the 36-Item Short Form Health Survey (SF-36, Rand Corporation).

Results: The average IHDS score among participants was 6.9 ± 2.6 with 83.5% exhibiting a heightened HAD risk ($\text{IHDS} \leq 10$). Older age was also significantly associated with lower IHDS scores (Pearson $r = -0.283$, $p < 0.0001$). Participants with dementia risk reported significantly greater bodily pain ($t = 2.707$; $p = 0.0084$) and greater pain interference with daily activities ($t = 2.725$; $p = 0.0079$) compared to participants without dementia risk. Participants with AUDIT scores ≥ 16 had lower mean IHDS scores than those with AUDIT scores < 16 ; however, this difference did not reach statistical significance ($p = 0.117$).

Conclusions: As expected, our findings demonstrated that increased age was the strongest factor associated with dementia risk in the NOAH cohort of PWH. Additionally, participants with greater HAD risk reported greater pain severity and pain interference. In comparison to our previous findings using the more extensive Montreal Cognitive Assessment (MoCA), AUD risk was not significantly associated with performance on the IHDS. This suggests that MoCA may be more sensitive than the IHDS for detecting global cognitive deficits, or that alcohol produces selective deficits in specific cognitive domains. Further studies using more comprehensive neurocognitive assessments are needed to better define the relationships among pain, alcohol use, and dementia risk in aging PWH. Our study also highlights the potential clinical importance of managing convergent neurological symptoms (pain and cognitive dysfunction) in PWH.