disclosure. Additionally, no participants cited regret about receiving their results.
Conclusions: While disclosure of biomarker positivity may result in mild increases in acute anxiety or distress, or fewer positive emotions, it does not result in clinically significant emotional reactions and was not associated with regret. Overall, findings are consistent with literature indicating safety of biomarker disclosure procedures for symptomatic individuals. Future research should follow participants over longer periods to evaluate the impacts of biomarker disclosure.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: dementia - Alzheimer's disease
Keyword 2: mild cognitive impairment
Keyword 3: positron emission tomography
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41 Examining the independent and additive effects of family history of dementia and apolipoprotein e4 on neurocognitive performance among people with HIV

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Objective: Among people with HIV (PWH), the apolipoprotein e4 (APOE-e4) allele, a genetic marker associated with Alzheimer's disease (AD), and self-reported family history of dementia (FHD), considered a proxy for higher AD genetic risk, are independently associated with worse neurocognition. However, research has not addressed the potential additive effect of FHD and APOE-e4 on global and domain-specific neurocognition among PWH. Thus, the aim of the current investigation is to examine the associations between FHD, APOE-e4, and neurocognition among PWH.
Participants and Methods: 283 PWH (M_{age}=50.9; SD_{age}=5.6) from the CNS HIV Anti-Retroviral Therapy Effects Research (CHARTER) study completed comprehensive neuropsychological and neuromedical evaluations and underwent APOE genotyping. APOE status was dichotomized into APOE-e4+ and APOE-e4-. APOE-e4+ status included heterozygous and homozygous carriers. Participants completed a free-response question capturing FHD of a first- or second-degree relative (i.e., biologic parent, sibling, children, grandparent, grandchild, uncle, aunt, nephew, niece, half-sibling). A dichotomized (yes/no), FHD variable was used in analyses. Neurocognition was measured using global and domain-specific demographically corrected (i.e., age, education, sex, race/ethnicity) T-scores. *t*-tests were used to compare global and domain-specific demographically-corrected T-scores by FHD status and APOE-e4 status. A 2x2 factorial analysis of variance (ANOVA) was used to model the interactive effects of FHD and APOE-e4 status. Tukey's HSD test was used to follow-up on significant ANOVAs.
Results: Results revealed significant differences by FHD status in executive functioning (t(281)=-2.3, p=0.03) and motor skills (t(278)=-2.0, p=0.03) such that FHD+ performed worse compared to FHD-. Differences in global neurocognition by FHD status approached significance (t(281)=-1.8, p=.069). Global and domain-specific neurocognitive performance were comparable among APOE-e4 carriers and noncarriers (ps>0.05). Results evaluating the interactive effects of FHD and APOE-e4 showed significant differences in motor skills (F(3)=2.7, p=0.04) between the FHD-/APOE-e4+ and FHD+/APOE-e4- groups such that the FHD+/APOE-e4- performed worse than the FHD-/APOE-e4+ group (p=0.02).
Conclusions: PWH with FHD exhibited worse neurocognitive performance within the domains of executive functioning and motor skills, however, there were no significant differences in neurocognition between APOE-e4 carriers and

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noncarriers. Furthermore, global neurocognitive performance was comparable across FHD/APOE-e4 groups. Differences between the FHD-/APOE-e4+ and FHD+/APOE-e4- groups in motor skills were likely driven by FHD status, considering there were no independent effects of APOE-e4 status. This suggests that FHD may be a predispositional risk factor for poor neurocognitive performance among PWH. Considering FHD is easily captured through self-report, compared to blood based APOE-e4 status, PWH with FHD should be more closely monitored. Future research is warranted to address the potential additive effect of FHD and APOE-e4 on rates of global and domain-specific neurocognitive decline and impairment over time among in an older cohort of PWH, where APOE-e4 status may have stronger effects.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: HIV/AIDS
Keyword 2: neurocognition
Keyword 3: dementia - Alzheimer's disease
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42 Cognitive and Neuroanatomic Correlates of Olfactory Function in Cognitively Unimpaired and Impaired Older Adults

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Objective: Olfactory function declines during normal aging; however, accelerated olfactory decline is observed in neurodegenerative diseases, such as Alzheimer's disease (AD). Moreover, olfactory deficits in pre-clinical AD are associated with future cognitive decline. Odor identification and memory deficits have been consistently reported in early stage AD indicating its potential sensitivity to AD pathophysiology in olfactory and limbic structures, yet few studies of olfaction have incorporated structural measures in a well-characterized cohort of older adults. In the current study we examined the association between odor identification impairment, cognition, and medial temporal lobe (MTL) sub-regions in cognitively unimpaired and impaired older adults.
Participants and Methods: We enrolled 140 participants (age=72.25±6.54, 56% female, years of education=16.30±2.63, 82% Caucasian, 15% Black/AA, 3% Multiracial) from the Penn Alzheimer's Disease Research Center Clinical Cohort. Participants completed the Sniffin' Sticks Odor Identification Test (SS-OIT), cognitive testing (NACC UDS2 or UDS3 and additional cognitive tests), and MRI scans (3T Siemens MAGNETOM Prisma MRI scanner). For the SS-OIT, participants were presented with 16 odorants using felt-tipped pen dispensers and asked to identify each odor from four multiple-choice options. Scores range from 0 to 16. Additionally, cognitive domains were created by averaging z-scores from tests within each domain: attention, memory, language, executive function, and visuospatial. This cohort was divided into participants with unimpaired cognition (n=96) and impaired cognition (MCI, dementia; n=44) using established normative data and consensus diagnosis. Linear regressions were performed to examine the association between SS-OIT score, each cognitive domain, and MTL measurements for unimpaired and impaired groups. For all analyses, we controlled for age, race, sex, education, smoking status, and hypertension and additionally for MOCA score and intracranial volume with MTL measurements.
Results: In the unimpaired group, SS-OIT significantly associated with language ($p<.05$). In the impaired group, SS-OIT significantly associated with language and memory ($p<.05$). In the unimpaired group, SS-OIT significantly associated with right anterior hippocampal volume ($p<.05$). In the impaired group, significant associations were found between SS-OIT and right anterior hippocampal volume ($p<.05$) and left hippocampal mean thickness ($p<.05$). Additionally, SS-OIT significantly associated with left and right entorhinal cortex volume ($p<.05$) and mean thickness ($p<.05$).

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