

LETTER TO THE EDITOR

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Dementia knowledge is low in adults with HIV disease

Although the prevalence of HIV-associated dementia has decreased in the antiretroviral therapy era, heightened concerns about typical dementias of aging (e.g. Alzheimer's disease) have emerged among persons living with HIV (PLWH) and their providers. However, we know little about the dementia literacy of PLWH, which is fundamental to modern dementia education, prevention, and early detection efforts. PLWH are at risk for low dementia knowledge, which is associated with lower education, minority race/ethnicity, and general health illiteracy (Morgan *et al.* 2015; Annear *et al.* 2017).

We examined the dementia knowledge of 41 PLWH and 60 seronegative persons from the Southeastern U.S. who provided informed, written consent to participate in a neurocognitive study. Exclusion criteria included sensory impairment and confounding central nervous system conditions (e.g. psychosis, seizures). The PLWH were 51 ± 8 years old with 13 ± 3 years of education, 85% Black, 37% women, and 78% were prescribed antiretrovirals (62% undetectable HIV RNA). Participants completed a standard neuropsychological assessment and six health literacy measures (e.g. HIV Knowledge Questionnaire-18 [HIV-KQ-18]). Participants completed the Dementia Knowledge Assessment Scale (DKAS-27; Annear *et al.* 2015) and the NeuroAIDS Knowledge Questionnaire (NAKQ-10), which assesses knowledge of neurobiological, clinical, and treatment aspects of HIV and the brain (e.g. "HIV medications almost always help to improve cognitive problems") on a 4-point scale (definitely true to definitely false). The DKAS-27 and NAKQ-10 each demonstrated high internal consistency (Cronbach's alphas $> .80$) and single factor structures as supported by principal components analysis and principle axis factoring. The NAKQ-10 was positively correlated with the DKAS-27 ($r = .24$, $p = .017$) and HIV-KQ-18 ($r = .24$, $p = .017$).

The HIV+ group was significantly younger than the seronegatives and had lower education, more racial/ethnic minorities, higher depression scores, and poorer health literacy ($ps < .05$). These variables were therefore included as covariates in a mixed model that showed a significant interaction between HIV serostatus and type of dementia knowledge

($p = .02$). Figure 1 shows that the HIV+ group had lower scores than seronegatives on the DKAS-27 ($40 \pm 3\%$ vs. $54 \pm 2\%$, $p = .0006$, Cohen's $d = -.72$), but not the NAKQ-10 ($40 \pm 3\%$ vs. $33 \pm 3\%$, $p = .064$, $d = .37$). Within the HIV+ group, the qualitatively lowest DKAS-27 subdomain scores were in communication and engagement ($30 \pm 4\%$) and risks and health promotion ($35 \pm 4\%$), followed by causes and characteristics ($43 \pm 3\%$) and care needs ($55 \pm 5\%$). Non-Hispanic White participants had better scores than minority participants on the DKAS-27 ($p < .0001$, $d = -1.31$), but not the NAKQ-10 ($p = .98$, $d = .01$). Neither the DKAS-27 nor the NAKQ-10 were related to HIV disease factors ($ps > .05$).

These preliminary findings suggest that PLWH possess moderately low general dementia knowledge. Lower levels of awareness and knowledge about dementia may adversely affect the intentions of older PLWH to pursue health promotion, monitor early signs of neurocognitive decline, and engage in healthcare and clinical research (e.g. Werner, 2003). HIV providers might consider psychoeducational interventions that utilize cognitive and behavioral theory to improve dementia knowledge (Perales *et al.* *in press*) and promote empirically supported prevention efforts (e.g. physical and mental activity). Future studies may examine other personal (e.g. perceived risk), situational (e.g. peer influences) and environmental (e.g. cultural) factors that contribute to low dementia knowledge in PLWH.

Conflict of interest

None

Description of authors' roles

S.P. Woods developed the NAKQ, designed the study, analyzed the data, and wrote the initial draft of the manuscript. P. Fazeli assisted in the development of the NAKQ and the design of the study, oversaw data collection and processing, assisted with data interpretation, and edited the manuscript. A. Matchanova assisted with data processing and edited the manuscript. D.E. Vance assisted with data interpretation and edited the manuscript. L.D. Medina assisted with data analysis and interpretation and edited the manuscript. E.E. Morgan

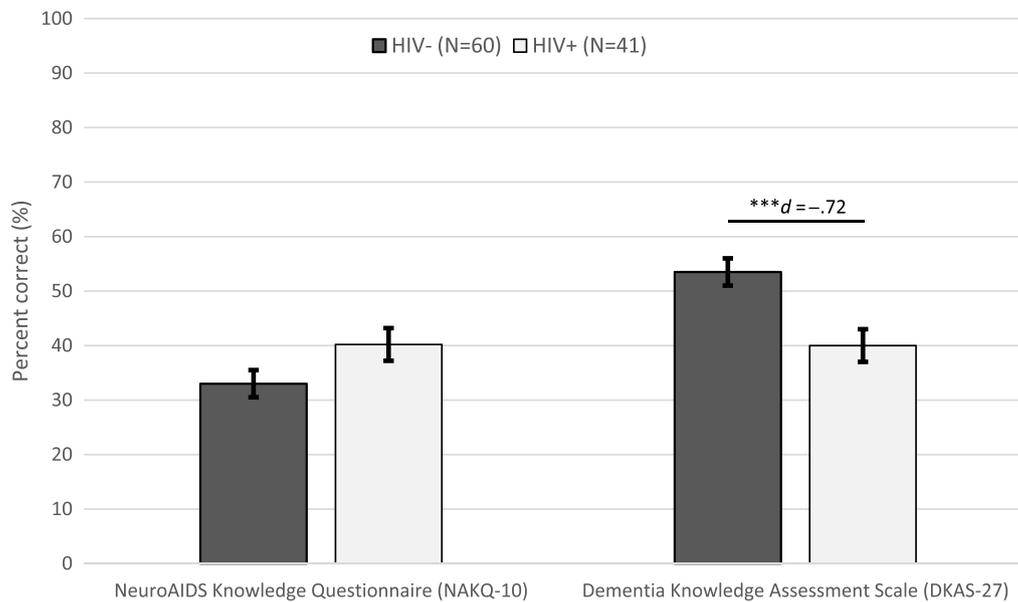


Figure 1. Bar graph showing the descriptive data (M and SE) underlying the interaction between HIV serostatus and domain-specific dementia knowledge. *** $p < .001$.

assisted with development of the NAKQ and data interpretation and edited the manuscript.

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STEVEN PAUL WOODS,¹ PARIYA L. FAZELI,²
ANASTASIA MATCHANOVA,¹ DAVID E. VANCE,²
LUIS D. MEDINA¹ AND ERIN E. MORGAN³

¹Department of Psychology, University of Houston, Houston, TX, USA

²School of Nursing, Birmingham, University of Alabama at Birmingham, Birmingham, AL, USA

³Department of Psychiatry, University of California at San Diego, San Diego, CA, USA

Correspondence should be addressed to: Steven Paul Woods, Department of Psychology, 126 Heyne Building (Suite 239d), University of Houston, Houston, Texas 77004. Phone: 713-743-6415. Email: spwoods@uh.edu.