Psychometric Assessment of the Frontal Systems Behavior Scale (FrSBe) in a Diverse Sample of HIV-Infected Individuals: Critical Considerations for Healthcare Providers

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Background & Overview

HIV-Effects on Frontal-Subcortical Function

Human immunodeficiency virus (HIV) commonly enters the central nervous system early in the disease course resulting in the initiation of biocellular cascades that promote neurodegeneration. Neuropathological and neuroimaging investigations have observed volumetric and white matter changes associated with the virus in frontal and subcortical brain regions, suggesting that these regions are preferentially affected by the disease. HIV-associated neurocognitive changes are commonly observed during more advanced stages with more severe cases resulting in dementia. The magnitude of neurodegeneration is directly related to the severity of cognitive impairment prior to death. Thus, having clinical measures sensitive to changes in frontal and subcortical-circuitry may aid in the detection of patients at risk for the development of future neurocognitive problems.

Assessment Instrument: Frontal Systems Behavior Scale (FrSBe)

The Frontal Systems Behavior Scale (FrSBe) is a 46-item rating instrument developed to assess behavioral symptoms associated with specific frontal lobe syndromes. The instrument is comprised of three subscales (apathy, disinhibition, executive function) that reflect behavioral profiles associated with three neuroanatomically distinct frontal-subcortical circuits.

HIV-Related Cognitive Impairment & Executive Function

Executive function: cognitive abilities encompassing planning, problem-solving, organization, and flexible thinking.

Implications for Diversity & Cultural Competence

Results may serve to inform healthcare professionals about the utility of the FrSBe as a rating scale of frontal behaviors in diverse HIV-infected populations. If psychometrically appropriate, patient report on the instrument may be used to identify individuals who may be at risk for neurocognitive impairment and guide tailored interventions addressing frontal symptoms. Ethnic minorities, particularly African-Americans, are infected with HIV at disproportionate rates relative to other racial groups. African Americans also account for the largest proportion of HIV infection across all stages of the disease. Thus, the FrSBe may have its greatest utility in this particularly vulnerable demographic. Future studies should explore the psychometric equivalence of the FrSBe across racial groups to ensure that the measure is adequate for HIV-infected individuals irrespective of racial status.