

Ikanga will present on the association between performance on the African Neuropsychological Battery (ANB) with biomarkers specific to Alzheimer's disease and more general vascular risk factors for cognitive decline. Second, Dr. Hickie will present on structural neuroimaging data of mesial temporal lobe atrophy in comparison with performance on the ANB. Dr. Reyes will then discuss the utility of a cognitive screener developed for use in Sub-Saharan Africa on older adults from the Democratic Republic of Congo, with specific emphasis on educational corrections. Finally, Dr. De Wit will discuss health and psychosocial predictors of depressive symptoms as well as the relation between depressive symptoms and neuropsychological functioning in Congolese older adults, to determine if neurocognitive profiles are similar in Sub-Saharan Africa relative to Western populations.

This "micro to macro" approach is unique in providing a comprehensive overview of risks associated with dementia in Congolese adults. This is the first study of its kind to utilize a multi-method approach for older adults at risk for dementia in Sub-Saharan Africa, and results suggest that some approaches are more valid in this population than others. Future areas of research will be discussed, as well as feasibility and validity of Western approaches in assessment of dementia to non-Western populations.

Keyword 1: cross-cultural issues

Keyword 2: dementia - Alzheimer's disease

Keyword 3: assessment

94 Associations Between African Neuropsychological Tests of Memory and Medial Temporal Lobe Structures in Older Congolese Adults with Suspected Dementia

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Objective: Hippocampal and medial temporal lobe structure atrophy is commonly observed in patients with mild neurocognitive disorders and dementias of various neurodegenerative conditions, with the degree of atrophy in these regions correlating with cognitive performance on memory tasks. This research has been conducted largely in western and educated countries. As cognitive aging, risk factors, clinical course, and neuropathology can differ between individuals of different races and ethnicities, our goal is to determine whether these findings also generalize to patients with suspected dementias living in the Democratic Republic of the Congo (DRC).

Participants and Methods: Neuroimaging and cognitive data have been collected on 40 subjects with probable dementia from the DRC and 40 age-, education-, and gender-matched controls. Patients were classified into groups based on scores on the Community Screening Instrument and the Alzheimer's Questionnaire. All participants completed the African Neuropsychological Battery. T1 MPRAGE images were acquired on Siemens 1.5T scanner. Freesurfer was used to derive volumes and cortical thickness of medial temporal lobe regions. Volumes of structures were divided by intracranial vault volumes to adjust for head size. T-tests were used to compare hippocampal volumes, entorhinal cortex thickness, and perirhinal cortex thickness between subjects with probable dementia compared to healthy age-, gender-, and education-matched controls.

Bivariate correlations were conducted to determine whether the volumes of these structures correlate significantly with learning and memory measures on the ANB.

Results: Results will be determined by the methods described previously.

Conclusions: Results from this study will demonstrate whether structural brain changes commonly seen in individuals with dementia living in western and educated countries also are observed in the DRC. Results will also demonstrate whether these brain changes coincide with the degree of impairments on tasks of memory, and whether these structures can be used to aid in clinical diagnosis of patients with dementia and support the use of the ANB and neuroimaging in clinical detection of dementias in the DRC.

Categories: Neuroimaging

Keyword 1: cross-cultural issues

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95 Examining the Utility of Demographically Adjusted Scores on the Community Screening Instrument for Dementia in Congolese Older Adults

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Objective: Given the lack of comprehensive neuropsychological tools and neuropsychological services in Sub-Saharan Africa (SSA), cognitive screeners for dementia can be useful tools to screen for suspected dementia at the population level. However, most available screeners have not been developed or validated in SSA populations. The Community Screening Instrument for Dementia (CSID) was developed for cross-cultural use, and it has a cognitive testing component and informant interview. We have previously demonstrated that lower years of education and female sex are associated with lower scores on the CSID. Here, we examine the utility of demographically adjusted CSID scores in a community sample of Congolese older adults.

Participants and Methods: 354 participants (mean age=73.6±6.7, mean education (years) =7.3±4.7; 50% female) were randomly recruited in Kinshasa, Democratic Republic of the Congo, and completed the CSID and the Alzheimer's Questionnaire (AQ) to examine functional abilities. Raw scores were demographically adjusted for education and sex by adding 1 point for ≤12 years of education and 1 point for female. Cognitive impairment was classified as a total score below 25.5. Rates of impairment were compared between raw scores and demographically-adjusted scores. Demographic profiles were examined between both classifications

Results: Average raw CSID scores were 25.23 (SD=4.19) and average demographically-adjusted scores were 26.59 (SD= 4.09). Approximately 43.1% of the sample was impaired based on the raw CSID scores compared to 30.4% with the demographically-adjusted scores ($\chi^2= 12.334$, $p<.001$). There was a higher proportion of females (n=95; 26.8%) classified as impaired with the raw SCID scores compared to the demographically-adjusted scores (n=62; 17.5%; $\chi^2= 8.87$, $p=0.003$). Approximately 27.4% (n=97) of the participants classified as impaired with the raw SCID scores had primary education or less (i.e., 1-6 years) compared to 18.9% with the demographically-adjusted scores (n=67; ($\chi^2= 107.77$, $p<.001$). Forty-five participants were re-classified as not impaired with the demographically-adjusted scores with the majority of these participants being female (73.3%), having primary education (66.7%), and being functionally unimpaired on the AQ (91.1% unimpaired).