

26th Annual Alzheimer Day

NIH Toolbox In The Trajectory From Healthy Cognitive Aging to Alzheimer's Type Dementia

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Background: Detecting cognitive decline in older individuals, in particular dementia due to Alzheimer's disease (AD), is of great concern for public health. Brief, computerized measures appropriate for a variety of settings are needed for early and rapid identification of individuals at risk for dementia. The ARMADA (Advancing Reliable Measurement in Alzheimer's Disease and Cognitive Aging) study will address this need by validating the NIH Toolbox for Assessment of Neurological and Behavioral Function (NIHTB) in older adults along the cognitive aging spectrum from normal to dementia. This presentation reports baseline characteristics of the clinical groups and early data.

Method: ARMADA is a multi-site study recruiting participants from nine established research cohorts with available AD biomarkers. Participants included individuals between the ages of 65-85 who were characterized as cognitively normal or having cognitive impairment, either amnesic mild cognitive impairment (MCI) or early stage Alzheimer's dementia. Baseline characteristics of the samples (total N = 146) and early data are presented for clinical groups for subtests of the Cognition, Emotion, Motor and Sensory modules of the NIHTB.

Results: Analysis of early baseline data in all four modules of the NIHTB revealed that mean standard scores differ among the three clinical groups in the expected direction, such that healthy controls have higher scores than participants with MCI, who, in turn, have higher scores than participants with early Alzheimer's dementia. Moreover, differences exist not only in cognitive measures, but in the other modules as well.

Conclusions: This initial review of baseline data in the ARMADA study shows that all four modules of the NIHTB are capturing differences among older individuals with normal cognition, MCI, and early Alzheimer's dementia. Longitudinal follow-ups are planned to examine how the NIH Toolbox can predict future cognitive decline and how these measures may be associated with AD

biomarkers.

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