Processing Speed Training to Preserve Driving and Functional Competencies in MCI

https://neurodegenerationresearch.eu/survey/processing-speed-training-to-preserve-driving-and-functional-competencies-in-mci/

Principal Investigators

WADLEY BRADLEY, VIRGINIA G.

Institution

UNIVERSITY OF ALABAMA AT BIRMINGHAM

Contact information of lead PI
Country

USA

Title of project or programme

Processing Speed Training to Preserve Driving and Functional Competencies in MCI

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 2,092,492.66

Start date of award

15/08/2014

Total duration of award in years

3

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease Related Dementias (ADRD)... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Behavioral and Social Science... Brain Disorders... Cerebrovascular... Clinical Research... Clinical Research - Extramural... Clinical Trials and Supportive Activities... Dementia... Neurodegenerative... Neurosciences... Rehabilitation... Translational Research...

Vascular Cognitive Impairment/Dementia

Research Abstract
DESCRIPTION (provided by applicant): Many individuals with Mild Cognitive Impairment (MCI) experience subtle decrements in everyday function that can signal encroaching dementia. Declines in cognitive processing speed and related declines in everyday functions including driving skills and safety are sequelae of the two most common brain pathologies associated with aging and MCI: Alzheimer's disease (AD) and, commonly, comorbid cerebrovascular disease (CVD). Processing speed declines are modifiable with a specific Processing Speed Training (PST) training protocol even in individuals with memory loss consistent with MCI due to AD. If these declines can be arrested in individuals with clinical MCI due to AD, speed-dependent functional abilities including driving may be preserved, with positive ramifications for safety, autonomy, and quality of life, even among those who may progress to dementia. The overall aim of the proposed research is to test an enriched version of this cognitive intervention with the goal of preserving functional abilities in a clinical MCI population with quantified genetic and neuroimaging AD and comorbid CVD biomarkers. We will conduct a single-blind randomized clinical trial of a validated computer-based PST intervention followed by two years of a novel home training protocol among individuals with clinically determined and consensus-diagnosed MCI due to AD. A control group drawn from the same pool of MCI participants (ppts) will undergo Internet Navigation Training (INT), a substantiated comparison condition. Aim 1 will examine immediate and longitudinal effects of PST on targeted cognitive and functional tasks among individuals with consensus-diagnosed MCI due to AD with or without comorbid CVD; Aim 2 will examine the magnitude and retention of cognitive and functional training gains by the unique and joint contributions of baseline genetic and MRI-acquired biomarkers of AD and CVD, and by the severity of baseline cognitive impairment. Training responses, including on-road driving evaluations, will be assessed following 6 weeks of lab-based training and at two annual follow-ups during the home training phase. Biomarker data will used to explore questions regarding which ppts can benefit from training, how much, in what domains, and for how long, enabling future research to target participants who can benefit appreciably from this training approach.

Lay Summary
PUBLIC HEALTH RELEVANCE: We will test an enriched version of an evidence-based cognitive training protocol followed by a novel home training phase with the potential to maintain important functional competencies, including driving skills and safety, in MCI. If the hypothesized training outcomes are realized, clinical recommendations for MCI patients could be extended to rehabilitation settings or to a home protocol that may be readily implemented as an adjunct to healthy lifestyle recommendations and experimental pharmacologic therapies, or as an alternative for those MCI patients who do not benefit appreciably or cannot tolerate those therapies.

Further information available at:

Types:
Investments > €500k

Member States:
United States of America

Diseases:

Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A