Cognitive and Aerobic Resilience for the Brain

https://neurodegenerationresearch.eu/survey/cognitive-and-aerobic-resilience-for-the-brain/

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Contact information of lead PI
Country

USA

Title of project or programme

Cognitive and Aerobic Resilience for the Brain

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 2,349,511.93

Start date of award

01/08/2014

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 including Alzheimer's Disease Related Dementias (AD/ADRD)... Behavioral and Social Science... Brain Disorders... Clinical Research... Clinical Research - Extramural... Clinical Trials and Supportive Activities... Dementia... Effectiveness Research... Mind and Body... Neurodegenerative... Neurosciences... Physical Activity... Prevention... Rehabilitation... Translational Research

Research Abstract

DESCRIPTION (provided by applicant): Dementia is an age-related condition that affects 10%

of the population over age 70. It is associated with loss of functional independence and high care costs (estimated at $159 billion in 2010). Prior to becoming demented, most patients pass through a stage called Mild Cognitive Impairment (MCI) in which deficits are mild and care costs are lower. We are proposing a pilot study of a behavioral intervention in MCI patients. If the proposed pilot study, designed to be consistent with current recommended approaches to establishing trial feasibility, is able to achieve its aims, it will provide a conceptual and practcal rationale to support a large, multi-site, randomized clinical trial (RCT) that tests the efficacy o combined physical and cognitive training in delaying time to a clinical diagnosis of dementia. a 2 x 2 factorial design with a home-based cognitive intervention (Cog-I) or cognitive control (Cog-C) and a home-based physical exercise intervention (Phys-I) or physical exercise control (Phys-C) enrolling older adults with MCI receiving meals under Title III of the Older Americans Act. The Phys-I intervention includes physical exercise focused on aerobic and resistance training for 45 minutes. The Cog-I intervention consists of computer based modules focused on executive cognitive ability for 45 minutes. The Phys-C intervention consists of 45 minutes of stretching while the Cog-C intervention consists of 45 minutes of educational programs and completion of puzzles and word games (Cog-C). Each of the 4 treatment conditions consists of 3 90-minute per week sessions for 12 weeks (36 sessions total). The aims are: 1) establish feasibility, monitor adherence to interventions and outcomes, and monitor safety and acceptability; 2) determine if combined treatment (Cog-I + Phys-I) has a positive effect on cognitive test performance vs. control (Cog-C + Phys-C); 3) estimate whether age, APOE, education, and baseline cognitive status are associated with response to treatment; and 4) examine mechanisms of action of the experimental intervention by tracking pre-post changes in trophic factors (BDNF and VEGF) and inflammatory markers (CRP, IL-6, TNF-alpha). Identification of treatments that delay progression of MCI is of enormous public health significance as such interventions have potential to delay the onset of dementia and its attendant functional and financial losses.

Lay Summary
PUBLIC HEALTH RELEVANCE: Dementia, an age-related condition that affects 10% of the population over age 70, is associated with loss of functional independence and high care costs (estimated at $159 billion in 2010). Prior to becoming demented, most patients pass through a stage called Mild Cognitive Impairment (MCI) in which deficits are mild and care costs are lower. This pilot study of a behavioral intervention in MCI patients, designed to be consistent with current recommended approaches to establishing trial feasibility, aims to provide a conceptual and practical rationale to support a large, multi-site, randomized clinical trial (RCT) that tests he efficacy of combined physical and cognitive training in delaying time to a clinical diagnosis of dementia.

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:
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