Web-enabled social interaction to delay cognitive decline among seniors with MCI: Phase I

https://www.neurodegenerationresearch.eu/survey/web-enabled-social-interaction-to-delay-cognitive-decline-among-seniors-with-mci-phase-i/

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Country

USA

Title of project or programme

Web-enabled social interaction to delay cognitive decline among seniors with MCI: Phase I

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 533,206.42

Start date of award

15/09/2016

Total duration of award in years

1

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... Diagnostic Radiology... Health Disparities for IC Use... Mental Health... Networking and Information Technology R&D... Neurodegenerative... Neurosciences... Prevention... Rehabilitation... Translational Research

Research Abstract

Larger social networks and/or more frequent social interactions are associated with lower incidence of AD. At the population level; increasing social interaction may be a promising intervention for improving the cognitive well-being of older adults. In our previous randomized controlled behavioral clinical trial, we developed a conversation-based social interaction cognitive stimulation protocol delivered by trained interviewers through personal computers, webcams, and a user-friendly interactive Internet interface with a touch screen (ClinicalTrials.gov:NCT01571427). Daily 30-minute face-to-face communications were conducted over a 6- week trial period in the intervention group, while control subjects received weekly phone contacts. Despite a small sample size, this feasibility study demonstrated high adherence in an elderly population (mean age 80 years) and some efficacy in language-based executive functions and psychomotor speed. Based upon these positive results, we propose a Phase I trial to advance development of this intervention. Primary aim (Aim 1) is to examine the efficacy of our intervention on cognitive functions among the target group – those aged 80 and older with MCI and limited opportunities of social interactions. Our two primary outcomes are cognitive functions in the domains of executive function and episodic memory using composite scores, and a secondary outcome is a targeted IADL function (medication management). Psychological well-being (mood, loneliness) and person-specific levels of social interactions (i.e., average conversation outside of the trial) will be monitored and controlled in the analyses. Exploratory Aim 2 is to examine whether the intervention could lead to changes in speech characteristics over time by analyzing recorded daily conversational sessions, based on our promising cross-sectional findings in this area. Exploratory Aim 3 is to examine underlying mechanisms of efficacy by assessing pre- and post- trial changes in amygdala volume and other ROIs using MRI and unbiased whole brain assessment (voxel-based morphometry), and structural and functional connectivity between amygdala and superior temporal sulcus using diffusion tensor imaging (DTI) and resting state fMRI (R-fMRI). A total of 144 MCI subjects will be recruited at Portland, Oregon, and Detroit, Michigan, collaborating with Meals on Wheels and Area Agency on Aging (AAA) at both locations, creating a large sampling frame of those with low income and from ethnic minorities. Approximately half of the participants will be randomly selected and invited to participate in the brain imaging study. Increasing daily social contact through communication technologies could offer a cost-effective home-based prevention that could slow cognitive decline, delay the onset of AD, and thereby reduce the overall societal burden of dementia. The oldest old is the fastest growing segment of the population in most developed countries and faces the highest risk of developing dementia and social isolation (risk factors of adverse health outcomes). User-friendly, sustainable prevention approaches, as sought here, are urgently needed in this population.

Lay Summary

Project Narrative Faced with an aging population and a growing number of people with Alzheimer's Disease (AD), delaying the onset of AD for a few years could result in a large reduction of the prevalence. After a successful completion of our previous pilot project funded by the NIH R01 mechanism, this proposed Phase I study examines conversational engagement as a means to improve cognitive functions among subjects aged 80 and older with Mild Cognitive Impairment and limited opportunities of social interactions. The project is of high

public health significance in that few effective, low-cost interventions exist for this vulnerable subpopulation.

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