Conversational engagement as a means to delay onset AD: Phase II

https://neurodegenerationresearch.eu/survey/conversational-engagement-as-a-means-to-delay-onset-ad-phase-ii/

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Country

USA

Title of project or programme

Conversational engagement as a means to delay onset AD: Phase II

Source of funding information

NIH (NIA)

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15/09/2016

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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)... Basic Behavioral and Social Science... 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... Mind and Body... Neurodegenerative... Neurosciences... Prevention... Translational Research

Research Abstract

Epidemiological studies show that larger social networks and more frequent social interactions are associated with lower incidence of AD. We hypothesize that increasing social interaction could improve and sustain cognitive function. 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. 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 among community-dwelling elderly (mean age of 80 years old). This feasibility study demonstrated high adherence and efficacy in language-based executive functions among those with normal cognition. Building on these positive results, the current study proposes a Phase IIA trial to advance this intervention. We propose to target individuals aged 80 and older with normal cognition and limited opportunities for social interactions – a group at high risk for incidence Mild Cognitive Impairment (MCI). In Aim 1, we will examine the trial efficacy using validated cognitive composite outcomes previously used in the ADNI data, in the domains of executive (ADNI-EF, primary outcome) and memory (ADNI-MEM, secondary) functions. Psychological well-being and person-specific levels of social interactions (i.e., average conversation outside of the trial) will be monitored and controlled. In Aim 2, we will assess efficacy in the same cognitive domains as in Aim 1, but using the NIH-Toolbox cognitive test battery, which is expected to have higher signal-to-noise ratio of pre- to post-trial changes and to provide cross-validation of domain responsiveness. Because the NIH- Toolbox iPad version has not been used extensively (released in August of 2015), this aim is exploratory. The Toolbox episodic memory assessment, which tasks both visual and auditory processing, captures the areas expected to be stimulated in our trial. Aim 3 will explore the underlying mechanisms of efficacy of enhanced social interaction on cognition by comparing pre- to post-trial changes in selected brain regions using MRI and voxel-based morphometry. Structural and functional connectivity between amygdala and superior temporal sulcus will also be assessed using diffusion tensor imaging (DTI) and resting state fMRI (R-fMRI). A total of 144 subjects will be recruited at Portland, Oregon, and Detroit, Michigan, collaborating with Meals on Wheels and the Area Agency on Aging, providing a large sampling frame of those with low income and from ethnic minorities. Increasing daily social contact through communication technologies could offer a cost-effective home-based prevention that could slow cognitive decline and delay the onset of AD. The targeted age group is the fastest growing segment of the population in most developed countries and faces the highest risk of developing dementia and social isolation, both of which are risk factors for cognitive declines. User-friendly, in- home 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 IIA study examines conversational engagement as a means to improve cognitive functions among subjects aged 80 and older with normal cognition 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:

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Investments > €500k

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United States of America

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Alzheimer's disease & other dementias

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