Epidemiologic Study of Decision Making in Preclinical Alzheimers Disease

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Country

USA

Title of project or programme

Epidemiologic Study of Decision Making in Preclinical Alzheimers Disease

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 2,639,579.82

Start date of award

01/04/2009

Total duration of award in years

7

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... Dementia... Epidemiology And Longitudinal Studies... Neurodegenerative... Neurosciences

Research Abstract
? DESCRIPTION (provided by applicant): Many of life’s most complex and influential decisions are made in old age, paradoxically just as neuropathology accumulates and cognitive function declines. Despite increased recognition that poor decision making in old age poses a critical public health and economic challenge, decision making has received surprisingly little scientific focus in aging research. In the first funding period, we assessed decision making in >800 older persons without dementia from the Memory and Aging Project, an ongoing longitudinal clinical-pathologic study of aging. We reported that decision making requires diverse resources (i.e., cognitive, affective, and contextual), and that many older persons without dementia exhibit poor decision making in domains critical for independence and well being (e.g., financial, healthcare). Poor decision making also is associated with a substantially increased risk of Alzheimer’s disease (AD) and mild cognitive impairment, suggesting that it may be an early manifestation of preclinical dementia. The overall goal of the proposed continuation (R01AG33678) is to examine the causes and consequences of age-related changes in decision making over time. We will quantify changes in decision making over many years in a large cohort of older persons without dementia and document the association of change in decision making with critical health and psychological outcomes. Next, based on compelling preliminary data showing that the neuropathologies of AD and cerebrovascular disease (CVD) are associated with decision making, we will test the hypothesis that common neuropathologies contribute to age-related changes in decision making. Further, based on research demonstrating the important role of aminergic systems as modulators of decision making, we will test the hypothesis that aminergic systems help preserve decision making in the face of neuropathology. Finally, we will examine how contextual and other behavioral factors interact with neurobiologic indices to influence decision making. The proposed study offers a unique opportunity to integrate up to 12 years of annual decision making and clinical data with neurobiologic indices of the most common neuropathologies known to impair function in old age (i.e., AD, CVD, Lewy body pathology) and aminergic systems (i.e., dopamine, norepinephrine) in order to identify the neurobiologic basis and consequences of age-related changes in decision making. We are not aware of other studies in which similar analyses could be performed. This study is uniquely poised to inform on the consequences and causes of age-related changes in decision making and will facilitate new therapeutic approaches to promote independence, health and well-being in old age.

Lay Summary
PUBLIC HEALTH RELEVANCE: The proposed study will: a) quantify the degree to which common age-related diseases (i.e., Alzheimer’s disease [AD], cerebrovascular disease [CVD], and Lewy body [LB] pathology) contribute to declines in decision making in old age, b) examine the degree to which changes in decision making predict critical adverse health and psychological outcomes, and c) identify neurobiologic and behavioral factors that help preserve decision This will facilitate pharmacologic and behavioral interventions to maintain decision making and independence in old age. Thus, the proposed study is highly likely to have a sustained impact on the field of aging and dementia and will have immediate translational

implications with high potential to yield enormous public health and economic benefit. making in the face of accumulating neuropathology.

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