Epidemiology of Alzheimer's disease resilience and risk pedigrees

https://neurodegenerationresearch.eu/survey/epidemiology-of-alzheimer%c2%92s-disease-resilience-and-risk-pedigrees/

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Country

USA

Title of project or programme

Epidemiology of Alzheimer's disease resilience and risk pedigrees

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 3,237,078.90

Start date of award

01/09/2016

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)... Biomedical Information Resources... Biomedical Information Resources and Informatics Research... Biotechnology... Brain Disorders... Clinical Research... Clinical Research - Extramural... Dementia... Epidemiology And Longitudinal Studies... Genetics... Health Disparities for IC Use... Human Genome...

Neurodegenerative... Neurosciences... Prevention

Research Abstract

Project Abstract Far too many people have personal experience with the destructive nature of Alzheimer's disease (AD). Despite significant progress identifying genetic risk factors and increased understanding of the inflammatory and immune response in AD etiology, our knowledge remains inadequate to develop effective preventions or cures. We have linked data and subjects from the Utah Population Database (medical records, death certificates, and genealogy for over 7 million subjects) and the Cache County Study on Memory in Aging (longitudinal cognitive assessment on over 5,000 subjects in Utah). These samples are an accurate representation of the general European American population, making findings from these data generalizable in that context. The combination of these studies enables the execution of an innovative design for gene discovery, and to evaluate the association between AD risk and resilience pedigrees, and key aspects of AD epidemiology, including socioeconomic status, cardiovascular disease, cancer and many others. We will first, conduct studies that leverage linkage and association to identify novel genetic risk factors. Second, we will use the UPDB to conduct powerful studies of measureable risk and resilience factors for AD. Third, we will collect additional samples from key pedigrees to enhance our study. And finally, all data associated with our effort will be harmonized and deposited into public databases. In summary our approach is carefully designed and well powered to provide new knowledge and facilitate efforts to develop a cure for AD. Specifically, we will augment the Cache County Study, an existing longitudinal cohort study, in an efficient and directed manner, including collecting and sequencing DNA samples from well-characterized cases and controls in the study. Using our unparalleled and powerful dataset and approach, we will explore trends in the risk of AD and their explanation via putative risk and protective factors. Our successful efforts will identify measurable risk and resilience factors for AD, enabling precision medicine by providing information for modifying risk in individuals and providing insights into those who will benefit most from therapeutic interventions. Finally, all data in from this proposal will be harmonized with relevant datasets and electronically archived in appropriate databases.

Lay Summary

Project Narrative The broad, long-term goal of our research is to identify measurable risk and resilience factors for Alzheimer's disease, which will lead to better strategies for treatment and prevention of this devastating disease. In this proposal we will test hypotheses that genetic factors influence pedigrees that exhibit a statistical excess or deficit of Alzheimer's disease mortality. We will use the novel combination of two ongoing studies, the Utah Population Database and the Cache County Study on Memory in Aging, along with novel approaches to data analysis, to identify these factors. All data associated with our work will be harmonized with key efforts in the field and deposited into appropriate public databases.

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