Andrea Leiseca
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DOD Awards Hussman Researchers $2.9 Million to Study Genetic Factors of Frontotemporal Dementia in Diverse Populations

Researchers at the John P. Hussman Institute for Human Genomics at the University of Miami Miller School of Medicine recently received a four-year, $2.9 million grant from the Department of Defense to identify and characterize genetic factors and networks contributing to frontotemporal dementia in Hispanic/Latino and other diverse populations. While genetic studies for patients of European descent are ongoing, detection of genetic variants contributing to frontotemporal dementia in these diverse populations has not been done. Studies of Alzheimer's disease have shown that genetic risk or protective factors may differ among different ancestries.

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Karen Nuytemans, Ph.D.

Principal investigators for the grant are Hussman Institute scientists Karen Nuytemans, Ph.D., research assistant professor in the Dr. John T. Macdonald Foundation Department of Human Genetics; and Margaret Pericak-Vance, Ph.D., director of the John P. Hussman Institute for Human Genomics and Dr. John T. Macdonald Foundation Professor of Human Genetics.

They are supported by Hussman Institute co-investigators Jeffery M. Vance, M.D., Ph.D., professor of human genetics in the Dr. John T. Macdonald Foundation Department of Human Genetics and the Department of Neurology; Michael Cuccaro, Ph.D., associate professor of human genetics in the Dr. John T. Macdonald Foundation Department of Human Genetics and the Department of Psychology & Behavioral Sciences; Anthony Griswold, Ph.D., research assistant professor of human genetics; and Farid Rajabli, Ph.D., associate scientist, as well as colleagues at the Uniformed Services University of the Health Sciences.

Currently, more than 6 million people in the United States are living with Alzheimer's disease or other dementias. As the population ages, the number of Americans with any dementia will grow along with it. Dementia appears to occur more frequently in Hispanic/Latino versus non-Hispanic white population groups. Taken together, these facts indicate a need to understand dementia in all population groups to help prevent this burden on the healthcare system

Frontotemporal dementia, or FTD, is the second-most common dementia after Alzheimer's disease, affecting about 5% of all patients with dementia and up to 10-20% of those with onset of symptoms before the age of 65 years. Approximately 40% of patients have a family history of FTD, indicating a strong inherited contribution to the disease. As for Alzheimer's disease, genetics play a major role in the risk of developing FTD, and genes driving this risk may differ between different population groups.

Margaret Pericak-Vance, Ph.D.

“Research into genetic factors for FTD has progressed significantly in the last decade and is now being translated into potential therapies, but the vast majority of this research has been done in non-Hispanic, white patients,” Dr. Nuytemans said. “Though important for our understanding of disease in general, it leaves a great gap in our knowledge for patients of any other population group; including those representing large minoritized groups in the U.S., such as Hispanics and African Americans.”

“If drug development for FTD continues to be supported by data gathered primarily or solely from non-Hispanic Whites, the resulting therapies will, unavoidably, be tailored to benefit this specific subset of the world population,” Dr. Nuytemans continued. “Thus, it is important to include diverse population groups in our genomic research as we move forward towards therapies. In this project, we will recruit FTD patients from these diverse populations and generate genomic data to identify genetic factors, both known and novel, contributing to FTD in these groups.”

“This new grant and the collaborations with other studies of dementia in Latin America positions us among the few premier academic research centers studying FTD in the Hispanic/Latino populations and will help us move closer to representation of this diverse group in the unique tapestry of human genetics,” Dr. Pericak-Vance said. “This major grant adds to the broad portfolio of governmental support, besides NIH, to the Hussman Institute’s genomics research program, and extends our commitment of reducing disparities relating to dementia in diverse populations.”

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