Center for Cognitive Neurosciences and Aging Awarded $9.7 Million for Innovative Alzheimer’s Research

Despite many advances in Alzheimer’s disease (AD), older minority groups remain underrepresented in research and clinical trials compared to their white counterparts. The Center for Cognitive Neurosciences and Aging (CNSA), part of the Department of Psychiatry and Behavioral Sciences at the University of Miami Miller School of Medicine, is poised to help address these disparities thanks to a series of recently awarded federal and state grants totaling $9.7 million.

David Loewenstein, Ph.D.

“The center has a distinguished track record in studying Alzheimer’s disease in diverse older adult populations,” said David Loewenstein, Ph.D., professor of psychiatry and behavioral sciences and director of the CNSA. “This new funding will support groundbreaking research on traditionally underserved ethnic and cultural groups, training the next generation of scientists and continuing our work in prevention and clinical care.”
Benefits of Alzheimer's Research in African American Communities

Dr. Loewenstein and Rosie Curiel-Cid, Psy.D., associate professor of clinical psychiatry and chief of cross-cultural neuropsychology and cognitive neuroscience at the CNSA, will serve as co-principal investigators on a five-year, $7.6 million grant awarded by the National Institutes of Health (NIH) for the study “Innovative Deep Phenotyping of African Americans at Risk for Alzheimer's Disease.”

At present, African Americans have twice the prevalence of AD compared to other groups, while their older demographic has an increased risk of diabetes, stroke, and renal function. Although there is growing evidence of modifiable risk factors that can prevent or delay cognitive decline in a person’s lifetime, the scarcity of data in the African American community complicates efforts to determine whether these factors apply to this population.

“This study will directly address well-documented barriers to participation in research with innovative approaches to recruiting and engaging older African American adults,” Dr. Curiel-Cid said. “As a new model for conducting AD research, our methods promise to be informative for the field and to make clinical research more accessible.”

Simple yet robust blood-based tests will scan for biomarkers of AD and other neurocognitive disorders in African Americans. Cognitive testing will complement amyloid PET and MRI scans to
compose a complete clinical and medical evaluation of these essential genetics.

“These tests can easily be deployed in community settings as an alternative to costly, more invasive testing,” Dr. Loewenstein noted.

**Fostering Long-Term Trust in Academic Medicine**

Through their preliminary studies, both investigators found many barriers to research in African American communities, the result of years of racially associated medical traumas and economic disadvantages. To achieve the projected study cohort of 300 participants, they will begin by going into African American communities in Miami-Dade and Broward Counties to highlight the many health benefits that can be gained by minimizing barriers to participation.

“A person’s culture plays a crucial role in health behaviors, perception of illness and even the etiology of dementia, all of which can delay diagnosis and treatment as well as influence the risk of and resilience to AD,” Dr. Curiel-Cid said. “As we deeply phenotype African Americans, we will also measure how cultural factors and other determinants such as literacy, stressful life events and social isolation may contribute to the increased risk of AD.”

The investigators anticipate that older African American adults who learn about these factors in their communities, rather than within intimidating clinical spaces, will be more inclined to enroll in the study. When enrollment is completed, testing can begin in the participants’ own homes, without the
need for transportation or other barriers to participation.

After the data is collected, including state-of-the-science blood-based biomarkers of AD and neuroimaging, genetics and novel brain neuroimaging modalities, the study will move into a longitudinal and collaborative phase featuring beneficial partnerships with health education and community outreach resources. The long-term collaboration will also extend to the study’s research partners, including other departments at the Miller School and experts at the Mayo Clinic and the University of Florida.

Elizabeth Crocco, M.D.

“We are currently following more than 1,000 research participants in addition to those to be enrolled through this new federal grant,” Dr. Loewenstein said. “The long-term goal is to discover those mechanisms that will help in the prevention, treatment and eventual cure of Alzheimer’s disease and related dementia, including the development of risk profiles to deliver more individualized interventions.”

Supplemental Research Projects

In addition to the NIH grant, the Florida Department of Health’s Ed and Ethel Moore Disease Research Program awarded four research grants totaling $2.1 million to Drs. Loewenstein and Curiel-Cid; Elizabeth Crocco, M.D., professor of psychiatry and chief of the Division of Geriatric Psychiatry; and Philip D. Harvey, Ph.D., professor, vice chair for research and chief of the Division of Psychology.
Philip D. Harvey, Ph.D.

Dr. Crocco will focus on expanding an extensive African American community registry and conducting additional bloodwork to study the contributory effects on AD of renal disease, cardiovascular disease and diabetes. The grant awarded to Dr. Harvey will fund a postdoctoral fellow at the CNSA to be mentored on cognitive neuroscience and brain research.

Dr. Curiel-Cid’s grant will support the infrastructure, community connections and pilot work to set up the in-home assessments for the federal grant with African American elders. Dr. Loewenstein will use his portion of the grant for new and improved cognitive challenge tests to detect very early-stage AD and biomarkers in Hispanic and non-Hispanic older adults.

“Though we are all working in different areas of research, our efforts and studies are all interconnected toward a larger purpose: to have all minority groups become better represented and receive the benefits of cutting-edge AD research,” Dr. Curiel-Cid said. 

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