

Research Grant Focuses on Linkage Between Insulin Resistance and Cognitive Function

Gilda Ennis, PhD

The Alzheimer's Association is committed in investing in research to create better futures for the more than 6 million individuals living with Alzheimer's or dementia. The Alzheimer's Association Research Grant and Fellowship awarded Gilda Ennis a grant to look at the longitudinal linkage between insulin resistance and Alzheimer's disease.

Insulin is a hormone in the body that helps your body turn blood sugar (glucose) into energy. In people with insulin resistance, the cells are unable to use insulin effectively. Individuals who are insulin resistant have been found to be at a greater risk for dementia. Through her research, Ennis is seeking to understand if insulin resistance is related to biological markers of Alzheimer's disease. One marker of interest has been tau detected by positron emission tomography (PET). Tau protein is found predominantly in brain cells. The type of tau detected by PET is an abnormally shaped form found in the brains of people with Alzheimer's disease. Ennis is studying whether insulin resistance is related to increased odds of tau PET positivity.

Insulin resistance is a key feature of type 2 diabetes and is also found in individuals who are pre-diabetic and suffer from obesity. Ennis's observational study looks at individuals in the pre-clinical phase of Alzheimer's disease. Similar to the results of past studies, Ennis found that middle-aged to older adults with higher insulin resistance experienced slightly worse cognitive decline as they aged compared to adults with better insulin sensitivity. Diet and weight management decrease likelihood of insulin resistance.

Ennis is an Assistant Scientist at the Alzheimer's Disease Research Center, UW-Madison School of Medicine and Public Health. She has always had a passion for studying factors that influence cognition in older adulthood. Ennis has been involved in research at North Carolina State University, where she received her PhD, and Georgia Tech. She has participated in the Alzheimer's Association International Conference (AAIC) for the last four years with poster presentations.

