Researchers at the University of South Florida have developed a method for treating post-traumatic stress disorder (PTSD) and conditions associated with the accumulation of amyloid beta (Abeta) peptides in neural tissue such as Parkinson’s disease (PD) and Alzheimer’s Disease (AD).

PTSD is an anxiety disorder that affects approximately 6.8% of the American population. It manifests after exposure to life-threatening traumatic events such as assaults, accidents, or combat incidents. PD and AD are Abeta peptide associated diseases with the latter infamously known to be the main cause of dementia in the elderly. Both PD and AD are progressive degenerative diseases of the brain associated with advanced age. About 17 million people are affected by AD worldwide. Furthermore, it is expected that by 2050, approximately 25 million will be affected in the United States.

USF researchers have developed materials and methods for the diagnosis, prevention and/or treatment of stress disorders and conditions associated with Abeta peptide aggregation. This method administers a therapeutically effective amount of cotinine, or a pharmaceutically acceptable salt thereof, to a person or animal in need of treatment. USF researchers have discovered that cotinine, the main metabolite of nicotine, has neuroprotective properties and reduces the toxic effects of Abeta peptides on brain neurons. Cotinine was also found to be beneficial against PTSD by enhancing the stimulation of a signal system that favors the brain plasticity required to ‘forget’ traumatic memories that increase anxiety and psychological suffering experienced by PTSD patients. This invention has many clinical applications in the biopharmaceutical industry.