Sarah Rasul

Undergraduate
Xavier University of Louisiana, New Orleans, LA

Mentor's Name: Devier J. Deidre, PhD Associate Professor - Clinical Departments of Cell Biology and Anatomy & Neurology

"Comparative Analysis of Cognitive Function in Patients with Parkinson's Disease and Multiple Sclerosis"

Multiple Sclerosis (MS) is an autoimmune disorder where the immune system attacks the protective myelin sheath that covers nerve fibers, causing communication problems between the brain and the rest of the body. MS can cause permanent damage or deterioration of the neurons in the central nervous system. The exact cause of MS is unknown though symptoms can include pain, tremor, changes in vision, fatigue, difficulty moving, and cognitive decline though these symptoms can vary from one patient to another.

Parkinson's disease (PD) is a neurological disorder that is caused by the death of cells in the substancia nigra that relay the neurotransmitter dopamine primarily to basal ganglia, a group of brain regions important for motor and other functions. Symptoms of PD include tremor rigidity and bradykinesia. Parkinson's treatment focuses on managing symptoms. MS and PD are neurological disorders characterized by progressive neurological decline which can then leads to cognitive impairment.

Patients with Parkinson's disease (PD) and multiple sclerosis (MS) were included in our study to evaluate their cognitive performance. They completed cognitive screenings using several neuropsychological assessments. The Montreal Cognitive Assessment (MoCA) examined language, memory, and attention. The Symbol Digit Modalities Test (SDMT) screens for information processing speed, attention and visual scanning. Lastly, the King-Devick Test evaluates eye movement and attention.