Abstract-Eric Rogers, Ph.D., Professor of Psychology

"*The Sociocultural Role, Relationship and Intersectionality of Race and Regimentation Among U.S. Ethnic Populations Impacted by Alzheimers and Parkinson Disease"*

Introduction: The annual number of neurodegenerative diseases among minorities is projected to increase by 524% between 1990 and 2040 in the US and there have been no major significant studies in recent years actually looking at the incidence and prevalence of signs/symptoms among different racial and ethnic minority patients with Alzheimer's dementia (AD), Parkinson's disease (PD) and Motor neuron disease (MND).

Background: Among several ethnic population groups impacted and affected by neurogenerative disorders: African American or Black, Asian, South Asian, Middle Eastern, Hispanic/Latino, American Indian/Alaskan Native and Native Hawaiian/Pacific Islander, research findings reflect a very pervasive and perpetual record of racial disparities. For PD, there were differences in the frequency of micrographia, anosmia, levodopa induced dyskinesia, falls and dystonia, while for AD there were differences in executive dysfunction and visual spatial changes and for MND difference were present for muscle atrophy, limb fasciculation, inability to ambulate, tongue fasciculation, choking episodes and dysphagia. Neurodegenerative diseases afflict all minority races and ethnicities, including some not previously reported and the frequency of presenting signs and symptoms significantly vary across different minority/ethnic groups.

Methodology: The objective of this research is to explore and to possibly determine the incidence of Parkinson's disease (PD) and the effects of race/ethnicity, other demographic characteristics, geography, and healthcare utilization on probability of diagnosis. Most recent analyses of archival data nationally in the U.S. indicates cumulative incidences of PD ranges from 45 per 100,000; 54 per 100,000 among whites, 23 per 100,000 among African-Americans and 40 per 100,000 among Latinos ($P < 0.0001$), corresponding to a relative risk (RR) of PD of 0.43 for African-Americans ($P < 0.0001$) compared with whites. After adjusting for age, sex, geography, reason for Medicaid eligibility, and average number of visits, African-Americans appear to still be half as likely to be diagnosed with PD as whites (RR 0.45, $P < 0.0001$). Older age, more healthcare visits and Medicaid eligibility because of income alone also were significantly associated with PD diagnosis, while male sex was not. Observed racial differences in incidence of PD are not explained by differences in age, sex, income, insurance or healthcare utilization but still may be explained by biological differences or other factors such as education or aging beliefs.

Conclusion: Better understanding of the complex biological and social determinants of these disparities is critical to improve PD care. The relationship between race and Parkinson's disease (PD) risk is controversial. Most prevalence studies suggest that African-Americans are less likely to have PD than whites.[1-3] Prevalence, however, is a poor proxy for risk.[4] Studies of incidence better represent risk. The only two recent major incidence studies conducted in the United States that examine the relationship between race and incident PD have had contradictory findings. Consequently, there is an imperative need to address and assess consistency and coherency among PD and AD relative to ethnic populations.

Eric Rogers, Associate Professor of Counseling/Clinical Psychology at the Chicago School of Professional Psychology, Chicago, Illinois.