

Joint Event on  
9<sup>th</sup> International Conference on  
**PARKINSONS & MOVEMENT DISORDERS**

&  
10<sup>th</sup> International Conference on  
**NEURODEGENERATIVE DISORDERS & STROKE**

February 10, 2022 | Webinar

## **Improving outcome in subclinical manifestations of Neuronal Degeneration and Parkinson's Disease**

**Vinod Nikhra**

Hindu Rao Hospital & NDMC Medical College, India

The neuropsychological aging changes are evident on the functional level in form of cognition and memory impairment due to changes in neurotransmitters and various receptors. Many older adults suffer with a decline in attentional abilities. Whereas the deficit in orientation is an initial and common symptom. The recent research suggests that normal aging is usually not associated with significant declines in orientation, a mild deficit, though, may be a part of normal aging. A significant decline in orientation may point to underlying Parkinson's disease. The measures to retard cognitive decline with aging may help in improving the outcome for Parkinson's disease patients. Studies of cognitive reserve link the specific biological, genetic, and environmental factors that make one person susceptible to cognitive decline. Certain factors and measures appear to delay the cognitive decline associated with the aging process. Some of these are specific, such as, high level of education, staying intellectually engaged in mental activities and maintaining social and friendship networks, and underline the importance of regular intellectual exercise. Whereas other non-specific factors that delay the aging process, like maintaining a healthy diet, including omega-3 fatty acids, and protective antioxidants may help in improving the outcome in Parkinson's disease. A low to moderate alcohol intake may stimulate the areas related to cognitive function and appears to improve cognitive decline. But it should be remembered that the elderly people are also sensitive to the toxic effects of alcohol on the brain. A regular physical exercise aiming for fitness in general, is a measure to keep healthy, including cognitive health. It increases the executive functioning and reduces the aging-related expected decline of white and grey tissue density. At individual level, the healthy lifestyle that reduces cardiovascular risk, will also benefit the brain. Optimal medical care in this context, offers a protection in terms of cognitive decline with help of anti-hypertensives, antiplatelet, and lipid lowering agents. The calorie restriction (CR) is needed to be mentioned as a tool to prevent or slow down aging process, cognitive decline, and outcome in underlying Parkinson's disease with subclinical manifestations. The CR appears to protect the brain against aging and neurodegeneration through increased activities of plasma membrane redox enzymes (PMRS) like NADH-ascorbate free radical reductase, NADH-quinone oxidoreductase 1, NADH-ferrocyanide reductase, NADH-coenzyme Q10 reductase, and NADH-cytochrome c reductase and antioxidants like  $\alpha$ -tocopherol and coenzyme Q10. The age-related increases in PM lipid peroxidation, protein carbonyls, and nitrotyrosine are attenuated by CR. Further, CR has been shown to lower the rate of production of free radicals by mitochondria and to protect cells against oxidative stress. The CR has been proven to reduce metabolic rate and oxidative stress, improves insulin sensitivity, and alters neuroendocrine and sympathetic nervous system function. CR, thus, appears to attenuate age-related deficits in brain function and protect neurons and may help outcome in neurodegenerative diseases including Parkinson's disease.

drvinodnikhra@gmail.com