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**The role of natural antioxidants in declining memory defects in Alzheimer's disease**

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Alzheimer's disease is a disease associated with neurodegenerative nature. We look for this disease in depth and think that functional alterations in white matter precede the clinical onset of Alzheimer's disease. As it were, it involves cerebrum maturing that happen by years (might be 5 years) before Alzheimer's infection had been created. This period is characterized by depression, which partly may be due to memory declining episodes. It was interestingly found that patients with diabetes are more likely to develop Alzheimer's disease. We have found using experimental animal models that rats with diabetes exhibited functional abnormalities in white matter. In other words, we found two biomarkers with different expressions, the expression of inducible Nitric Oxide Synthase (iNOS) was highly expressed in white matter of diabetic rats compared with expression of iNOS in grey matter of the same group ( $p=0.000$ ). On the other hand, the expression of heat shock protein 70 (Hsp70) exhibited different biological reactivity in which its expression was significantly decreased in white matter compared with that in grey matter of the same group ( $p=0.000$ ). The phenomenon of varying expressions of the two markers was also observed in experimental models of Parkinson disease. In another study using brains of persons who died because of Traumatic Brain Injury (TBI), we showed high expression of iNOS. Our philosophy in realizing the concept of time implies that time is a series of events rather than a continuous movement or flux of time proceedings and this understanding may help us in reversing the biological and pathological events of a disease. In other way, we can ask that what will be the state of brain if we can reverse the biological events to the point before the disease had started? The appropriate response might be amazed! This is the role of natural anti-oxidants. We have administered some medical herbs into creature models in our examinations and shockingly found that the use of Urtica pilulifera had signaling effects and interferes with cellular processes through decreasing the expression of iNOS and increasing the expression of Hsp70. We also found that the use of Ammi visnaga had signaling effects and lowered the expression of p53 in the heart tissue of rodents presented to various models of smoking. We have previously found that exercise training helps in both neurogenesis and angiogenesis in brains of rats with Parkinson disease. Taken together, the use of natural antioxidants may help patients with Alzheimer's disease to overcome depression and memory problems.

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