



The 1st International Neuroinflammation Congress and 1st Student Festival of Neuroscience

Shefa Neuroscience Research Center, Tehran, Iran, 11-13 April, 2017

The Neuroscience Journal of Shefaye Khatam

Volume 5, No. 2, Suppl 2

Poster Presentation

The Potential Preventive-Therapeutic Effects of Flavonol Consumption on Alzheimer's Disease

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Published: 11 April, 2017

Abstract

Alzheimer's disease (AD) is considered as the greatest threat to adults aged 65 and older. It stands as the most common cause of dementia, the prevalence of which is around 24 million worldwide. AD is a progressive and degenerative disorder that combats the neurons, leading to impairment of different cognitive functions. AD is characterized by an accumulation of two factors normally present in the brain: Amyloid-Beta plaques (A β) and neurofibrillary tangles, outside and within the cells, respectively. Present drugs for treatment of AD have severe side effects. Thus, more researches are required to find substitutes with less harm. Flavonoid is a large group of antioxidant plant-derived compounds which can be found in high concentrations in cocoa powder and chocolate. It has been indicated that flavonols can display several roles on the brain, improving memory and learning. For optimal function of the neurons, a persistent blood flow is needed to supply adequate glucose and oxygen. Flavonoids act on the endothelium of brain vessels, stimulating NOS, causing nitric oxide (NO) to increase. A growth in the amount of NO can lead not only to the increment of cerebral blood flow, but also a limitation in the production of A β . Flavonols provoke angiogenesis and neurogenesis in the sub ventricular zones and hippocampus (regions involved in memory and learning) as well. The current study was designed to determine the effect of flavonol consumption on Alzheimer's disease. Taken together, various findings have implied that long-life consumption of flavonoid-rich food, like cocoa powder and chocolate, has the potential ability to limit neurodegeneration and prevent age-related cognitive decline.

Keywords: Flavonol, Alzheimer's disease, Cerebral blood flow, Amyloid-beta

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