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Alzheimer's Disease: Primary Prevention Through Vitamins B6, B9 and B12

Inácio, M.L.G.T¹; Inácio, A.V.G.T²; Araújo, M.L.S³; Maia, L.M.S.S⁴

^{1,2,3}Medicine Student at the Federal University of Pernambuco - UFPE; ⁴Lecturer/Researcher, Department of Histology and Embryology, Center of Biosciences, Federal University of Pernambuco - UFPE.

ABSTRACT

Introduction: Alzheimer's disease (AD) is a progressive neuro-degenerative disorder that compromises memory, concentration and reasoning of individuals. Due to the aging population, it is estimated that in the year 2050, 1 in every 85 people will be affected by AD in the world. B vitamins are essential for the proper functioning of the neurological system. **Objective:** To relate the use of vitamin B6, B9 and B12 with delayed onset of Alzheimer's disease. **Methodology:** Review of PubMed, BVS and SciELO databases using the descriptors "Alzheimer's disease", "B vitamins" and "Homocysteine". The inclusion criteria were: articles available in humans between 2012 and 2017. **Results and Discussion:** 3 articles fit the inclusion criteria proposed. The role of vitamins B6, B9 and B12 is critical to avoid accumulation of the amino acid homocysteine. Pyridoxine acts on the conversion of homocysteine to cysteine, while folic acid and cobalamin act to produce methionine from homocysteine. This amino acid originates from the metabolism of methionine and may have a neurotoxic effect. Its presence at high levels in the organism is related to neurological diseases. The increase of this compound is responsible for the worsening in the cases of patients with AD by raising the rates of β -amyloid, thus provoking hyperphosphorylation of the Tau proteins. Although B vitamins have not been confirmed in all studies to improve secondary prevention of patients, such substances appear to reduce the risk of developing AD. **Conclusion:** Adequate nutrition is essential throughout life, but during the aging process, the use of foods rich in complex B vitamins such as deep-sea fish, whole grains, legumes and dark green leaves is emphasized in order to avoid or delay this disease.

Keywords: Alzheimer's disease; Complex B vitamins; Homocysteine

*Correspondence to Author:

Inácio, M.L.G.T

Medicine Student at the Federal University of Pernambuco - UFPE

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