

A REVIEW: NEURODEGENERATIVE DISEASES AND DIET

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ABSTRACT

Neurodegenerative disorders and dementia are on the rise, with an incidence of over 17 million people worldwide. Neurodegenerative diseases such as Alzheimer's disease (AD), Parkinson's disease (PD), Huntington's disease (HD) and amyotrophic lateral sclerosis (ALS) are major threats to human society as the aging population grows. All the neurodegenerative diseases are characterized by neuronal loss progressively in the brain, causing cognitive impairment and motoneuron disability. Even though multifactorial interactions are conspicuous, diet plays an important role in the pathogenesis and evolution of neurodegenerative diseases. Previous studies have proven that the Mediterranean diet (MeDi), supplementation of antioxidants and some vitamins bring various benefits on memory and cognition impairment. While nutritional support and calorie-controlled diets have a protective effect against cognitive decline, an increasing number of data demonstrate the utility of ketogenic diets in neurodegenerative diseases that is recognized as an effective treatment for pharmaco-resistant epilepsy. The collected data shows that malnutrition and low body mass index (BMI) are associated with higher development of dementia and death. Malnutrition also activates gut-microbiota-brain axis dysfunction, which exacerbates the neurodegenerative process. Insulin activity is a common factor contributing to brain health. In this review, the effect of diet on some selected neurodegenerative diseases will be discussed.

Keywords: Neurodegenerative Diseases, Mediterranean Diet, Ketogenic Diet, Nutrition, Antioxidants