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Role of Dietary Supplements in the Management of Parkinson's Disease

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Abstract

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The use of food supplements or functional foods has significantly increased in the past decades, especially in developed countries. The use of these products is based on the assumption that some of the food supplements are biologically intended to exert a positive effect on a target organ, tissue, or function, and thus, they are expected to be beneficial for the overall health and well-being of the recipients of these products. Brain health and well-being are the recipients of many dietary diseases such as cardiovascular diseases, stroke, cancer, and neurodegenerative disorders, which are the most feared by the general population. In the past few years, the role of food supplements in the treatment and prevention of neurodegenerative diseases such as Parkinson's disease (PD) has been investigated. The aim of this review is to provide a comprehensive overview of the current evidence on the use of dietary supplements in the management of PD. The review also discusses the potential mechanisms of action of the most commonly used supplements, and it provides a critical appraisal of the quality of the evidence. The review concludes that there is some evidence that some food supplements may have a beneficial effect on PD, such as coenzyme Q10, creatine, and omega-3 fatty acids, but the evidence is very limited, mixed, and of low quality. Future research should focus on the effectiveness of these products in clinical settings, and it should also consider the potential interactions between these products and the pharmacological agents used at present for the management of PD.

Keywords: Parkinson's disease; food supplements; functional food; antioxidants; anti-inflammatory; neuroprotection; neurodegeneration

1. Introduction

The use of food supplements has significantly increased over the past decades, especially in the developed countries, and this trend is expected to continue in the coming years. The use of these products is based on the assumption that some of the food supplements are biologically intended to exert a positive effect on a target organ, tissue, or function. Moreover, the dynamic lifestyle that people live in modern societies has created a need for products that can provide a quick and convenient alternative to the usual or regular meals or beverages [1].

In recent years, a positive related trend for medical nutrition medicine was conceived, meaning the use of food supplements or functional foods for the management of various medical conditions [2]. This trend is well accepted as an alternative or CAM (complementary and alternative medicine) by the general public and by the medical community [3]. Commonly-based supplements are expected to be effective in the general health and well-being of the recipients, and they are also expected to be beneficial in the management of various medical conditions. Brain health and well-being are the recipients of many dietary diseases such as cardiovascular diseases, stroke, cancer, and neurodegenerative disorders, which are the most feared by the general population. Dementia, vascular dementia, stroke, and cognitive impairment are the most feared by the general population, and they are the most common causes of disability in the elderly [4]. 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Lycopene

Figure 1
Chemical structure of lycopene and isomers

Vitamin A (retinoids) are one of Pharmacy's dynamic fields, with numerous applications in medicine. Vitamin A (retinoids) are one of Pharmacy's dynamic fields, with numerous applications in medicine.

Vitamin A is a fat-soluble vitamin that is essential for vision, growth, and immunity. It is found in animal products and can be produced from beta-carotene in the body.

Vitamin A (Retinol) of Carotenoids Applied Pharmacology in Medicine

Vitamin A (retinol)

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