

Chapter 10

Nutraceuticals Role in Stress, Aging, and Neurodegenerative Disorders

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ABSTRACT

Nutraceuticals and functional foods have attracted considerable interest recently because of their well-known safety and potential nutritional and therapeutic effects. Nutraceuticals include food supplements, dietary supplements, value-added processed foods, as well as non-food supplements such as tablets, soft gels, and capsules etc. which are packed with bioactive components. Life expectancy continues to rise and along with a rise in the lifestyle diseases (i.e., obesity, diabetes, hypertension, cardiovascular diseases, and neurodegenerative disorders). Functional foods and nutraceuticals constitute a great promise to improve health, neurodegenerative disorders, and aging-related chronic diseases. A collective effort by the academia, industry, government, and research organization must keep on promoting nutraceutical and functional food to contain the menace of lifestyle diseases.

DOI: 10.4018/978-1-5225-3267-5.ch010

INTRODUCTION

The new term known as “Nutraceuticals” was coined two words from “nutrition” (nourishing food or food component) and “pharmaceutical” (medical drug), by Stephen DeFelice founder and chairman of the Foundation for Innovation in Medicine (FIM), in 1989 (Das, Bhaumik, Raychaudhuri, & Chakraborty, 2012). Nutraceutical can be defined as is a food or food product that provides health and medical benefits, including the prevention and treatment of disease. Phytochemicals and antioxidants are two specific types of nutraceuticals (Keservani, Kesharwani, Sharma, Vyas, & Chadoker, 2010a). Research has proved that the combination of food ingredients or phytochemicals provide protection from many life-threatening diseases including cancer, diabetes, heart disease, hypertension, and neurodegenerative disorders (Keservani, Kesharwani, Vyas, Jain, Raghuvanshi, & Sharma, 2010b). Over the last 20 years, numbers of Nutraceuticals are available for self-medication or for sale. Nutraceuticals a lot of widespread in the modern society due to the belief of reduced chances of adverse effects, being natural, the ease of self-medication and the positive effects on the aging population (Pathak, 2010).

CATEGORIES OF NUTRACEUTICALS

Nutraceuticals are non-specific biological therapies used for the prevention in many diseases are categorized on the basis of their sources or origin, pharmacology as well as chemical component (Dureja, Kaushik, & Kumar, 2003; Hathcock, 2001; Chauhan, Kumar, Kalam, & Ansari, 2013) (Figure 1):

1. Dietary Supplements
2. Functional Food
3. Medicinal Food
4. Pharmaceuticals

Dietary Supplements

A dietary supplement is a product that contains nutrients derived from food products. The “dietary ingredients” present in these products are: metabolites, vitamins, minerals, herbs, and amino acids.

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