

Can Nutraceuticals a Day Keep the Doctor Away?

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Received date: February 11, 2019; Accepted date: February 13, 2019; Published date: February 18, 2019

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Introduction

"So where do we go from here? Well, I think, again I'm not sure, that the quest to demonstrate whether chronic administration, long-term diet, long-term supplementation, can prevent serious diseases like cancer, heart disease, dementia, arthritis has come to an end". -Stephen L. DeFelice, 2014; said the man who lectured about the term 'Nutraceutical' in a scientific session 2014 [1]. The reputation of the Nutraceuticals and its evidence of efficiency is vague and every so often conflicting because of their meagre trial designs and inflated popularity for profitable drives [2,3].

Stephen DeFelice a renowned physician, the founder of 'Foundation for Innovation in Medicine' (FIM; Cranford, NJ, USA) coined the term 'Nutraceutical' in 1989 and defined Nutraceuticals as "a food or portion of a food substance that delivers health or medical benefits, which includes the treatment as well as the prevention of occurrence and progression of disease [4].

Various nutraceuticals tested or being tested

Nutraceutical	Disease/Condition	Tested	Being tested
Soy protein (genistein)	Coronary heart disease (reduces low-density lipoproteins)	Yes	-
Omega-3 oil	Coronary heart disease	Yes	-
Black cohosh	Menopausal hot flashes (serotonin modulation)	-	Yes
Stanol/sterol esters	Coronary heart disease (reduces low-density lipoproteins)	Yes	-
Soy isoflavones	Breast, prostate and bone cancer	Yes	-
Phytoestrogens	Cognition in post-menopausal women	Yes	-
Cranberry	Urinary tract infections	Yes	-
Red clover	Hormonal actions	Yes	-
Chasteberry (vitex)	Menstrual disorders	-	Yes
Green tea	Cancer	-	Yes
Black haw (Virburnum prunifolium)	Premenstrual tension	-	Yes
Chinese mushrooms	Prostate and bladder cancer	Yes	-
Isothiocyanates	Cancer	-	Yes
Polyphenols	Cancer	-	Yes
Phytoestrogens	Bone metabolism	-	Yes
Lutein	Macular degeneration	-	Yes
Lycopene	Cancer	-	Yes

Table 1: List of various Nutraceuticals tested or being tested.

Source of Nutraceuticals

Commonly used Nutraceuticals are Curcumin which is extracted from the Indian spice turmeric, GAGs (Glucosamine Sulfate,

Chondroitin Sulfate, and Hyaluronic Acid), ASU (Avocado/soy unsaponifiable (ASU) are plant extracts with a sterol-rich hydrolyzed lipid fraction that is extracted from soybean, avocado. Bioflavonoids,

phytoflavonoids are polyphenols components that are extracted from vegetables and plants. Bromelain and ginger are obtained from immature fruits of pineapple and stems (Table 1).

Recently Nutraceutical interventions are used as a tactical means for prevention and management of geriatric diseases like osteoarthritis, Alzheimer's because of its risk-benefit ratio, low cost. Furthermore, the recent research data reveals the fact that this kind of intervention ropes not only functional improvement, clinical symptoms, but also it helps in disease regression [5].

Conclusion

As we are in the era where the treatments are expensive and are incessantly increasing, the Nutraceuticals approaches have evolved as a novel, more effective and inexpensive intervention technique. The use of these agents can be increased by the appropriate formulations, improvised knowledge of selected Nutraceuticals with inclined bioavailability will certainly widen, the existing large group of

population using the Nutraceuticals. Nevertheless, evidence-based data regarding the usage and its effects on the body systems is still deficient. More clinical trials are required to illuminate their role and ideal way and dosage administration are still needed to be studied.

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