

# Chapter 12

## Nutraceuticals: An Approach Towards Safe and Effective Medications

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### ABSTRACT

*Nutraceutical is a unique grouping of two words, nutrition and pharmaceutical, which describes a food or food product that regularly provides health and medical benefits, including the prevention and cure of various diseases. Chemically, nutraceuticals contain a range of bioactive elements classified as polyphenolic compounds, isoprenoids, minerals, amino acid derivatives, carbohydrate derivatives, fatty acids and structural lipids, prebiotics, and probiotics. The majority of nutraceuticals have numerous beneficial and healing effects without any kind of side effects that keep their attention towards the consumer. The demand for nutraceuticals was increasing slowly due to a high risk of toxicity or adverse effect of drugs. Consequently, in such circumstances, nutraceuticals prove a safer approach for health management. Meanwhile, a few challenges were hindering the fame of nutraceuticals like lack of standardization and awareness, high pricing, marketing, and supply. This chapter mainly emphasizes the recent role of nutraceuticals in human health and its status in other nations.*

### 1. INTRODUCTION

Scarcity of healthier foods was expanding gradually due to the population, pollution and adulteration in food items. All these factors create a great risk to human health and vegetation and raising a question in front of us how can we riddle out from this problem? The way of using grains has also changed with evolution in time. Natural foods have resulted in the deficiency of essential nutrients in human beings specifically due to modification in traditional methods used such as polishing of grains leads to loss of

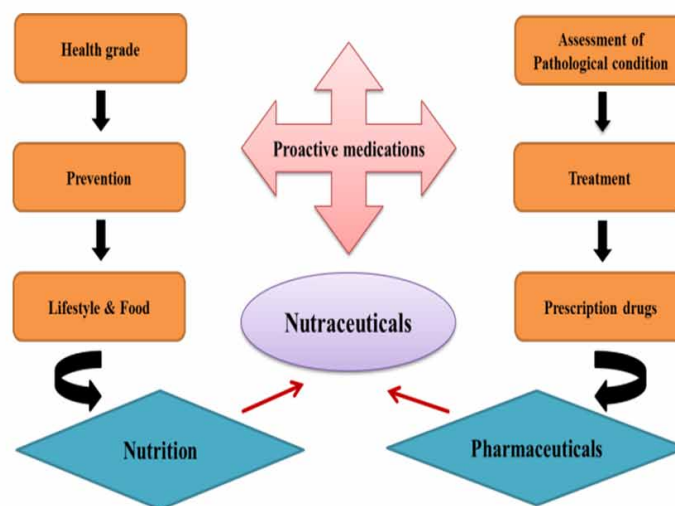
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essential nutrients and fibers that are very much required for the proper functioning of a healthy body. Along with this, the overall consumption of refined sugar and processed foods has also increased.

But somehow people have understood that along with taste, convenience, and value, health is an important subject of concern. Therefore the value of Nutritive food items has become a great concern. People in the developed world are aware of the fact that processed food is nutritionally deficient, so they would take vitamin supplements to compensate for the loss of nutrients. Now the trend has changed. Rather than going for pharmaceuticals, people prefer natural substitutes such as herbals. Ayurveda is the ancient Indian science of medicine, emphasis is given to the role of nutrition in health and disease. The term “nutraceutical,” derived from the terms nutrition and pharmaceutical was coined in 1989 by Dr Stephen De Felice, (Chairman of the Foundation for Innovation in Medicine). It was the first time used in the United States to describe foods or food components that have the potential to cure specific disease conditions (Gupta et al., 2010). The term is intended for a nutritional supplement that is sold with the intent to treat or prevent disease and does not have any regulatory definition. Hence, a “nutraceutical” is any constituent that may be considered a food or part of food which provides medical or health benefits, encompassing, prevention and treatment of diseases. Isolated nutrients, dietary supplements, and diets to genetically engineered “designer” foods, herbal products, and processed foods such as cereals, soups, and beverages may be also included under the canopy of the term nutraceuticals (Nasri et al., 2014; Singh & Sinha, 2012).

Figure 1. The major properties of nutraceuticals



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