



An overview of current scenario of Nutraceutical foods

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Abstract:

In recent years nutraceutical market is growing rapidly as millions of people using nutraceutical because of multiple therapeutic effect and allowing humans to maintain overall good health. It has been shown that people consuming healthy diets, living active lifestyles as they are deeply concerned about their health. Nutraceutical is a broad umbrella term that is a fusion of 'Nutrition' and 'Pharmaceutical'. It is bioactive substance or natural bioactive compound that have additional medicinal value with the natural nutritional value present in them. The various types food products used as nutraceuticals are categorised as- Dietary fibres, Prebiotic, Probiotic, Functional foods, farmaceutical, etc.

Keywords: Nutraceutical, Dietary fibres, Prebiotic, Probiotic

Introduction:

The word "nutraceutical" is coined in 1989 by Stephen L. DeFelice, founder and chairman of the Foundation of Innovative Medicine^(1, 2, 3, 4). Nutraceutical is a concted of the words "nutrition" and "Pharmaceutical". According to american organisation "a nutraceutical is any substance that is a food or part of food and provides medical and health benefits including the prevention and treatment of disease"^(1, 5). The concept of nutraceutical was stared from the survey in U.K, France and Germany. Indians, Chinese, Egyptians and Summerians are just a few civilisation that have used food as medicine.

Bridging the gap between food and medicine

"Let food be the medicine and medicine be your food" is a misquotation imputed by Hippocrates, who is considered by some to be the father of western medicine⁽⁵⁾. Nutraceutical are food and food ingredients that have medical and health benefits. This emerging class of products blurs the line between the food and drugs⁽⁶⁾.

Role of nutraceutical⁽⁷⁾

- ❖ Increase the health value of our diet
- ❖ Help us to avoid particular medicine conditions
- ❖ Helps us to live longer
- ❖ Have psych
- ❖ ological benefits from doing something for itself
- ❖ Present food for population with special needs

- ❖ Avoid side effects

Classification of nutraceutical

Depending on the source nutraceutical is classified as:-

1. Nutrients
 - a. Vitamins
 - b. Amino acids
 - c. Minerals
2. Herbals
 - a. Polyphenols
 - b. Antioxidants
3. Dietary supplements
 - a. Probiotics
 - b. Prebiotics
 - c. Synbiotics

Nutrients

As defined by AAFCO (1996), "a feed constituent in a form and at a level that will help support the life of an animal." Nutrients are amalgamation of cabohydrates, lipids, proteins, vitamins, minerals, etc^(8, 9). Basically, these are compounds in foods which are essential to life and health, providing us energy and the building blocks for repair and growth.

Herbals

All medicines were derived from natural materials in the ancient time which are described under the broad heading "herbs," India has the oldest written tradition for the natures remedies called "Ayurveda" which

possess many effective means of ensuring health care^(10,11). Herbals are as old as human civilization and they have provided a complete storehouse of remedies to cure acute and chronic diseases and such traditional medicine is still widely practiced today. Various parts of plants like seeds, berries, leaves, roots, flowers and bark are used for medicinal purposes which contain numerous nutraceuticals⁽¹²⁾.

Dietary supplements

The dietary supplement health and education act (DSHE) of 1994 defined generally what constitutes a

dietary supplement. "A dietary supplement is a product (other than tobacco) that is intended to supplement the diet that contains one or more of the following dietary ingredients-a vitamin, a mineral, a herb or other botanicals, amino acids⁽¹³⁾. These products are administered through mouth that contains a dietary ingredient intended to add something to the foods you eat. Examples of dietary supplements are black cohosh for menopausal symptoms, ginkgo biloba for memory loss and glucosamine/chondroitin for arthritis⁽¹⁴⁾.

Table 1: classification of nutraceuticals

Nutraceutical	Source	Use
Polyphenolic compounds		
Curcumine	Turmeric root	Effective anti-clotting agent, strong anti-inflammatory and anti-inflammatory
flavonones	Citrus fruits	Anticancer and antioxidants
carotenoids		
carotene	Corn, legumes, tangerian	Anticancer, anticarcinogenic
lycopene	Guava papaya, watermelon, tomatoes	Anticancer
minerals		
calcium, potassium, copper, selenium, zinc	Food	Important constituents of balance diet
saponin	Soyabean, chickpeas	Anticancer activity, for lowering cholestrol level
Dietary fibres		
Insoluble fibres	Nuts, wheat, corn bran	Helpful in maintaining digestive tract
Soluble fibres	Barley, some fruits, oats, legumes	Anticancer, Helpful in maintaining digestive tract
Probiotics/Prebiotics	Dairy and non dairy application, yoghurt	May improve systemic immunity and gastrointestinal
Alkaloids		
Morphine	Opium poppy	Pain killer, antidepressant
Vinblastine/Vincristine	Periwinkle	Anticoplastic

Current scenario of nutraceutical

Nutraceutical is one of the fastest growing industries with global market of \$ 450 billion in 2015. It is expected to be expand at a CAGR of 7.3% from 2015 to 2021.

Currently, the United States, Europe and Japan answerable for most (93%) of the global nutraceutical market^(15,16).

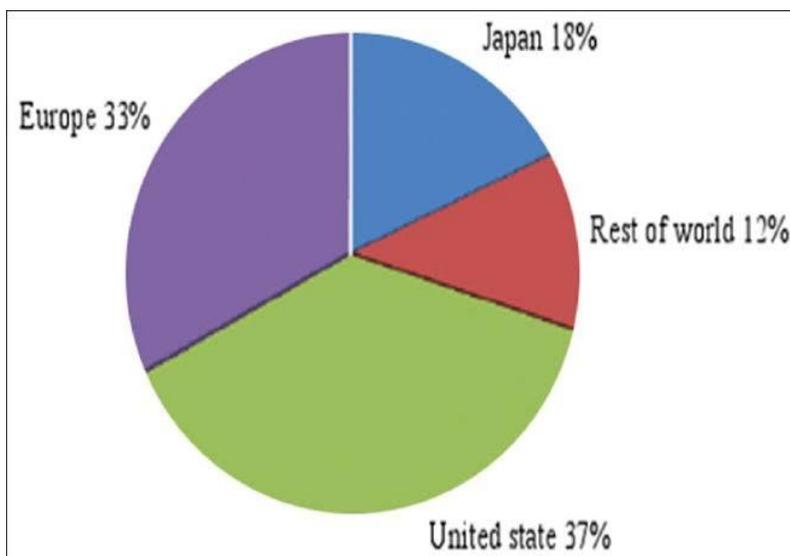


Fig.1: Global use of nutraceutical

In the Asia Pacific nutraceutical market, Japan has the largest consumer, followed by China. According to a recent report in India, the net worth of nutraceutical is about \$ 2.2 billion and is projected to grow at 20% to \$ 6.1 billion by 2020-2021. As a result the dietary supplements holds the largest share of the market. To keep up with the growing competition, nutraceutical companies are focusing to developing new products and innovative formulations and using proper advertising techniques to help consumers choose the right products. Nutraceuticals available in different medicinal formulations such as capsule, tablet or powder in a prescribed dose while modern nutraceuticals are available in the forms of food or food ingredient or as whole food itself such as probiotic drink and yogurt^(15,16).

Conclusion

As the nutraceutical market is on its peak of growing globally. The market is likely to be in growth phase due to emerging market of countries like India, China, etc. As people are deeply concerned about their health which leads to increase in demand of nutraceutical products. Although, nutraceutical have significant role in encouragement of human health and eradication of disease. Its tremendous growth has implications for food, Pharmaceutical, Health care and Agricultural industries. nutraceutical products future demand is depend on the perception of relation between diet and drug.

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