



REVIEW ON IMPACT OF NEURACEUTICAL ON HEALTH

Pharmaceutical

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ABSTRACT

Neutraceutical is the combination of 'nutrition' and 'pharmaceutical'. In recent years there is growing interest in neutraceutical which provide health benefit and are alternative to modern medicines. Neutraceutical have physiological benefit or provide protection against chronic disease. They can boost overall health of person. The extensive research revealed the involvement of these agents in the treatment and prevention of disorder such as cancer, arthritis, diabetes, asthma, and many others. Nutraceuticals have received considerable interest in recent times because of their presumed safety and potential nutritional and pharmaceutical value. Nutraceuticals are substances which are not traditionally recognized nutrients but which have positive physiological effects on the human body. They are claimed to possess multiple therapeutic benefits. The medicinal plants represent one of the important fields of traditional medicine all over the world and hence an established constituents of neutraceutical.

KEYWORDS

Neutraceutical, health benefits, classification, disease, marketed preparation,

INTRODUCTION:

Neutraceutical can be defined as product isolated from foods and it consists of combination of words nutrition and pharmaceutical. And it has medical benefits including prevention and treatment of diseases. Such product may range from isolated nutrients, dietary supplements and diets, herbal product and also consist of processed foods such as cereals, soups and beverages.¹ In recent years the new lifestyle adopted by people has changed the basic food habits. Consumption of junk food has increased risk to number of disease caused due to improper nutrition.² It is used to prevent various disease condition such as joint pain, insomnia, rheumatoid arthritis, degenerative eye condition, obesity. It can also make prevention against cancer, osteoporosis and many other.³

Importance or need of neutraceutical:

- Increased health value of our diet
- It can improve medical condition of human.
- It can reduce side effect of many allopathic products.
- It help in detoxifying the body.⁴
- It helps us to live longer.
- It can be used for prevention or treatment or to care of condition of disease
- It can modify physiological functions in human beings.
- It can be available easily and economically affordable.⁵

Classification of neutraceutical:

1. Dietary fibre :

Dietary fibre mostly include non-starch polysaccharide such as cellulose, gums, proteins.

Source: Oats, barley, beans²

Advantages: Dietary fibre affect rate of digestion. It also help to decrease serum LDL and improve glucose tolerance.⁶

2. Prebiotic:

Prebiotic are dietary ingredient that beneficially affect host.

Source: Chicory roots, banana, tomato, beans like peas

Advantages: it has antitumor properties. It causes neutralization of toxins and stimulation of intestinal immune system. It can reduce constipation. It improve blood lipid and cholesterol level.⁷

3. Probiotic

Probiotic are live microbial feed supplement, which when administered in adequate amounts beneficially affects the host animal by improving its intestinal microbial balance.

Source : Lactobacilli, gram positive cocci²

Advantage: Probiotic agents possess the properties of non-pathogenic, non-toxic, resistance to gastric acid, adherence to gut epithelial tissues producing antibacterial substances. It can be used to treat diarrhoea. It also decreases risk of allergy.⁷

4. Polyunsaturated fatty acids (PUFA)

These may be omega 3 fatty acids e.g. α -linoleic acid, eicosapentaenoic acid and docosahexaenoic acid

Source: fatty fishes, flaxseed, soybean, corn, safflower, sunflower and soyabean etc.⁸

Advantages: omega-3-fatty acids have three major effects as cardiovascular diseases anti-arrhythmic (preventing or alleviating irregularities in the force or rhythm of the heart). It can promote the reduction of lipid concentrations in the serum. Emerging research evidence shows the benefits of omega-3-oils in other areas of health including pre-mature infant health, asthma, bipolar and depressive disorders, dysmenorrhoea and diabetes. Omega3-fatty acids have been shown to be beneficial at various stages of life. Infant formulas nowadays contain DHA along with ARA, which closely mimic the breast milk.⁹

5. Antioxidant :

Antioxidant are substance that inhibit oxidation

Source : Citrous food, vegetable grain, oil, tomatoes, carrot, mango, papaya, grapes, black tea, liquorice, etc

Advantages: Antioxidants are very essential in the treatment of almost all diseases because most chronic diseases carry with them a great pact of oxidative stress Help in prevention of cancer, rheumatoid arthritis, Alzheimer and cardiovascular disease⁹

Market scenario of neutraceutical product in India:¹⁰

As Indians become conscious about their health and how they look and feel, the market for dietary supplements, sports nutrition products, and weight loss products that are broadly clubbed under neutraceutical is beginning to pick up speed. Pharmaceutical companies are now adopting the neutraceutical and the recent trend is convergence of food manufacturing companies with pharmaceuticals to implement the research necessary for drug discovery; the move into the less expensive and time consuming neutraceutical research process. It is thus becoming a logical progression for many food companies to enter into neutraceutical market.

The trend towards preventive healthcare has seen Pharma Companies such as Novartis, GlaxoSmithKline, and Cadila Healthcare has diversified into the production of neutraceutical. Then there are fast moving companies like Cadbury India and Dabur that have had a presence in the market with a slew of supplements & additives. On the other end of the spectrum companies that specialize in Ayurvedic/herbal health care products like the Himalaya Drug Company. The Indian Neutraceutical Market is dominated by pharmaceutical and fast-moving consumer goods (FMCG) giants. While Dietary supplements such as Vitamin and Mineral Supplements have been captured by Pharmaceutical companies, functional food and beverages are now being brought to the market by FMCG companies.

In India, market of neutraceutical over a broad spectrum of categories

of food supplements which is shown in **fig 1** below, which are approaching the higher degree of accuracy and growth through innovative approaches

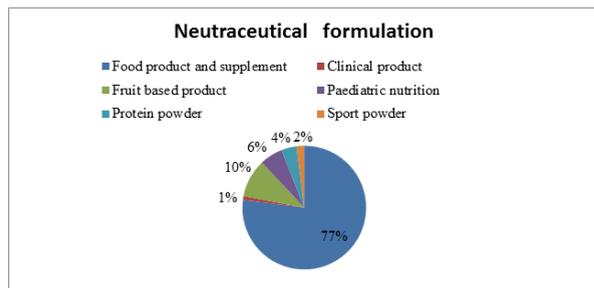


Figure 1 Neutraceutical formulation available in market

Marketed preparation of Neutraceutical in India:^{11,12}

Company Name	Few products
Kellogg	Kellogg's Cornflakes, Oats
Patanjali	Choco Flakes, Corn Flakes, Oats, PowerVita
Abbot	PediaSure
Dabur	Chyavanprash, shilajeet gold, Janmaghuti, Honey , Abhyarishta
Amway	Nutrilite – range of products
Herbalife International	Herbal life Protein Powder
Himalaya Drug Company	Himalaya Pure Herbs
Lever ayush	Cosmetics
Nestle	Milk powder
Yakult	Probiotic
Lipton	Green tea
Saffola	Oats,ediable oil
Oriflame	Vit E capsules

Detailed about Neutraceuticals present in market and their category:

Product	Category	Manufacturer
Calcirol D3	Ca supplement	Cadilla healthcare limited Ahmedabad
Dabur chayawanprash	Immune booster	Dabur India ltd
Dabur Abhayarishta	Appetiser	Dabur India ltd
Dabur janmaghutti	Antidiarrhoeal	Dabur India ltd
GRD	Nutritional supplement	Zyduscadillapvt ltd
Proteinex	Protein supplement	Pfizer ltd Mumbai
Vitacare	Vitamin supplement	Vitacare medical product ltd
Salmon	Nutritional supplement	Amway health care ltd

CONCLUSION

- Nutraceuticals are present in most of the food ingredients with varying concentration
- Diet rich in Nutraceuticals or along with use of marketed neutraceutical formulation, with regular exercise, stress reduction and maintenance of healthy body weight will maximize health and reduce disease risk.
- Nutraceuticals have significant promise in the promotion of human health and disease prevention. Health professional, nutritionists and regulatory toxicologist should strategically work together to plan appropriate regulation to provide the ultimate health and therapeutic benefit to mankind.
- “Neutraceutical a day may keep the doctor away” replace the old proverb “an apple a day will keep the doctor away” so it’s very essential to implement regulatory body is very necessary to review this topic.
- Finally we can say that neutraceutical is powerful substitute in maintaining health and reduce risk of various chronic diseases.

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