



## A Review Nutraceuticals

*<sup>1</sup>Kolpe Arpita, <sup>2</sup>Mr. Harangule. Y. R, <sup>3</sup>Wasmate. D. N*

<sup>1</sup>B Pharmacy, Final Year Student, Latur college of Pharmacy, Hasegaon SRTUMN.

<sup>2 3</sup>Assistant Professor Department of Pharmaceutical Chemistry, Latur college of Pharmacy, Hasegaon

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### ABSTRACT:

Nutraceuticals are essential food elements that have both nutritional and medicinal properties. It contains active ingredients such as carotenoids, hydrolyzed collagen, and dietary fiber. Health benefits of this product. Nutraceuticals have been found to have the following beneficial effects: It supports cardiovascular and immune system health and helps prevent infections and cancer. Functional products are divided into several types depending on their properties and mechanism of action. Functional foods include foods or parts thereof. Provides health or wellness benefits, including disease prevention and/or treatment. This nutraceutical helps in the fight. The major health problems of this century include obesity, cardiovascular disease, cancer, osteoporosis, arthritis, diabetes, and cholesterol. This article can be a useful tool to keep you up to date with the latest developments. event. There is a growing bias toward preventive care, increased disposable income, and competitive pricing. The main reasons for the growth are environmental growth in pharmaceutical retail chains and rising healthcare costs. The healthy food market in India suffers from lack of standardization and awareness, high prices, and a lack of marketing and distribution. There are a few problems. The functional food market is showing rapid growth, mainly in the United States, India, and Europe. A business partnership model and effective compliance can help you enter this market faster. Evaluate key trends and consumer feedback.

**Key words :** Functional nutrition and disease, food additives.

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### INTRODUCTION:

Isolated nutrients, food additives, and diets are examples of genetically modified foods. Designer foods, plant-based foods and processed foods, including cereals, soups and beverages. We have over 470 nutraceuticals with proven health benefits.

" Because of its perceived safety and possible nutritional and therapeutic benefits. " A lot of attention is given focused on functional foods and functional foods.

"The functional foods industry is well-positioned to capitalize on consumer interest in these products. This is true whether you are a large pharmaceutical company, a food manufacturer, or a large food manufacturer.

Whether it is a multinational corporation or a small vitamin company, everyone is aware of the changing patterns and increasing growth. Trends of customers interested in health. In the case of dietary nutrition, supplements are known as " concentrated sources.

"Nutritional benefits that complement diet." Not all health supplements are functional foods. Nutraceuticals are claimed to provide physiological benefits or provide protection against the diseases listed below (and/or have been found to:

1. Cardiovascular drugs
2. Antibiotic
3. Diabetes medication
4. Anticancer drug
5. Immunity booster
6. Chronic inflammatory disease
7. Degenerative disease
8. Rheumatoid arthritis
9. Lower cholesterol levels

10. Arterial pressure
11. Digestive problems
12. Osteoporosis

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### Reasons To Switch To Nutraceuticals:

1. Consumer concerns about medical costs are growing.
2. People who are dissatisfied with pharmaceuticals to improve their health are turning to functional foods. Improve your health and prevent chronic diseases.
3. Healthcare providers know that highly processed foods are entering the market.
4. They come from crops that use chemical fertilizers, pesticides and herbicides and are often genetically bred. Seed strains do not contain enough nutrients needed for optimal health.
5. People suffering from chronic diseases do not find solutions through homeopathic medicines.
6. Functional foods are rapidly replacing pharmaceuticals in the prevention and treatment of acute and chronic health problems. Patients experiencing financial difficulties.
7. People who consider prevention more important than cure. The number of consumers worried about medical expenses is increasing.

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### Classification Of Functional Foods:

Category: Food Additives; Functional nutrition, medical nutrition, pharmaceuticals. Dietary supplements are products that contain: Nutrients obtained from food, often concentrated in liquid, capsule, powder, or tablet form. Dietary supplements are regulated by the FDA as follows:

Regulations for food are different from those for drugs and other foods. All products used as functional foods can be classified as natural products.

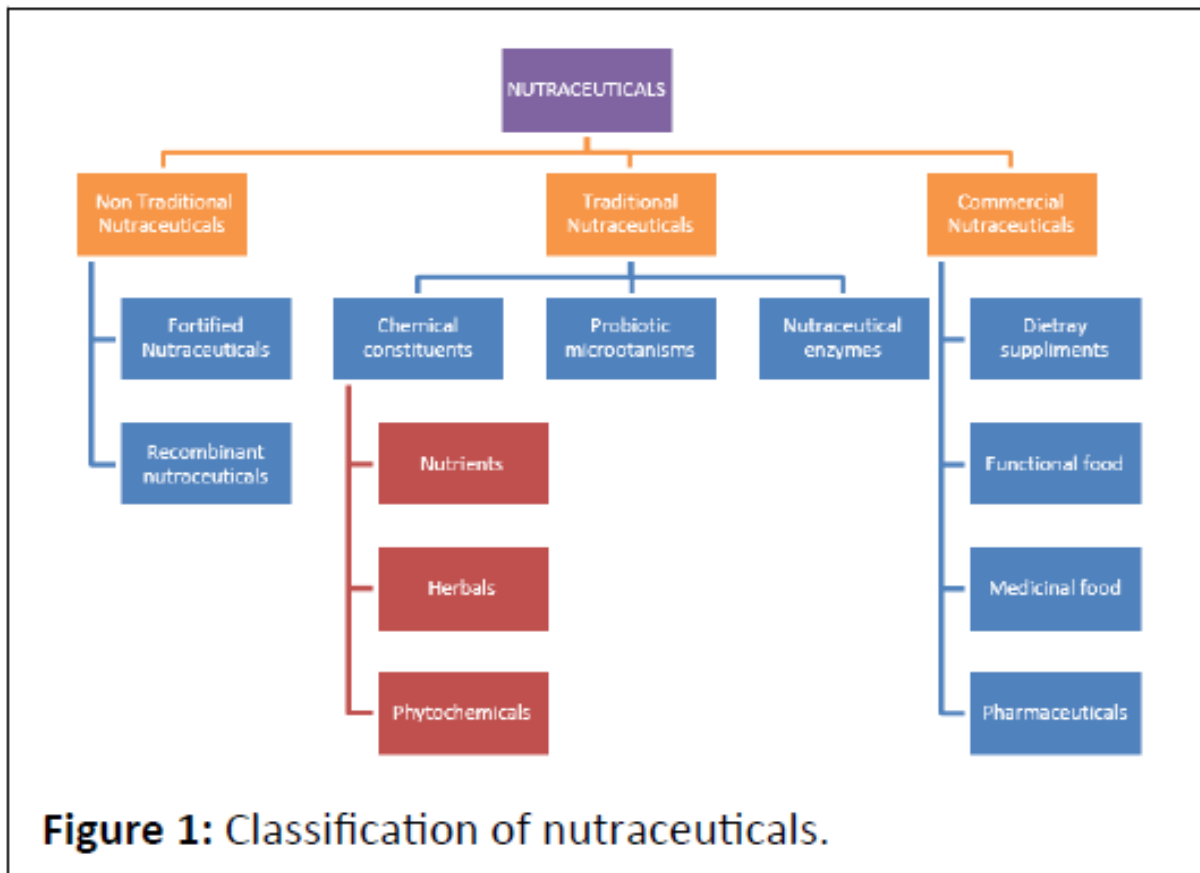
1. carbohydrates and fiber
2. Fats and essential fatty acids
3. Protein
4. vitamins
5. Minerals such as macrominerals and trace elements.

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### Various Functional products used for various diseases:

<b>Sr No</b>	<b>DISEASES</b>	<b>EXAMPLES</b>
1.	Alzheimer's disease	Vitamin E and Vitamin C
2.	Cardiovascular system	Flavonoids
3.	Parkinson's disease	Vitamin E
4.	Obesity	Chistan, Vitamin C
5.	Improve your eyesight	Carrots, Spinach
6.	Antioxidants	oats, fruit
7.	Anti-inflammatory	turmeric
8.	High blood pressure	curry leaves

This category is based on products available on MARKET:



### I. Non-traditional nutraceuticals:

This is an artificial food that is biotechnology. Food samples contain biologically active ingredients. Components for the production of products for human health.

They are divided into two types:

A. Expanded Functional Nutrition:

B. Recombinant functional nutrition.

#### A. Expanded Functional Nutrition:

They are usually rich in sufficient amounts of vitamins and minerals. Up to 100% of the recommended intake. This is a nutrient. Fortified nutraceuticals are foods It contains: Creates or adds nutrients.

An example of a partially fortified nutraceutical is orange juice. Cereals and flours with added calcium, vitamins and minerals. added milk containing folic acid and cholecalciferol.

#### B. Recombinant functional food :

They are usually rich in sufficient amounts of vitamins and minerals. Up to 100% of the recommended standard. This is a nutrient. Fortified nutraceuticals are foods It contains: Creates or adds nutrients.

An example is orange juice that is partially fortified with nutraceuticals. Cereals and flours with added calcium, vitamins and minerals. added milk containing folic acid and cholecalciferol.

### II. Traditional food:

Traditional nutraceuticals are simply natural, without additives. Additives have been added. Changes in food. Food contains several natural ingredients. Ingredients that provide benefits beyond basic nutrition: lycopene from tomatoes, omega-3 fatty acids from salmon, and saponins from soybeans.

A. Probiotic microorganisms

B. Prebiotics

C. Compound

D. Food enzymes

#### **A. Probiotic microorganisms:**

They drive out pathogens such as yeast, other bacteria, and viruses. Otherwise, they cause disease and develop a mutually beneficial symbiotic relationship with humans. Gastrointestinal tract. It has an antibacterial effect due to the transformation of microorganisms. It Prevents pathogens from attaching to the intestinal epithelium and competing for nutrients. It is important for the survival of pathogens by exerting anti-toxin effects and reversing some of them.

For example, the effects of infection on the intestinal epithelium alter the transport of neutrophil secretions.

#### **B. Prebiotics:**

They drive out pathogens such as yeast, other bacteria, and viruses. Otherwise, they cause disease and develop a mutually beneficial symbiotic relationship with humans. Gastrointestinal tract. It has an antibacterial effect due to the transformation of microorganisms. It Prevents pathogens from attaching to the intestinal epithelium and competing for nutrients. It is important for the survival of pathogens by exerting anti-toxin effects and reversing some of them.

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#### **C. Chemical composition:**

1. Nutrient

2. Grass

3. Phytochemicals

Phytochemicals are essentially plant nutrients that have specific biological activities in maintaining human health. They work like this:

1. Substrate for biochemical reactions.

2. Cofactor for enzymatic reactions. Improves absorption and/or stability of essential nutrients.

3. Substrate for fermentation of beneficial bacteria.

4. Reactive or toxic chemical removers.

5. A ligand that acts on or antagonizes cell surface or intracellular receptors.

#### **D. Food Enzymes:**

Enzymes are an essential part of life, and without them our bodies would stop functioning. People suffer from conditions such as hypoglycemia or hypoglycemia. Their diet causes digestive problems and obesity, but these symptoms go away when they take enzyme supplements. These enzymes are obtained from microbial, plant, and animal sources.

### ***III. Commercial food:***

Discovery of new molecules is more difficult and expensive. And it's more dangerous than ever. There are many restrictions. Now companies are trying to produce functional foods. Because it's obviously a very large and growing market. Seafood rich in omega-3 is one of the most promising seafood. Advances in human nutrition research and disease prevention over the past 30 years.

A. Nutritional supplements,

B. Functional food,

C. Medical nutrition.

D. Limit

#### **A. Nutritional supplements :**

It is prescribed by doctors for various diseases. Conditions that interfere with the ingestion, digestion, absorption, or metabolism of traditional foods, such as phenylketonuria, celiac disease, and lactose intolerance. Go get some nutritional supplements .

Substances such as vitamins, minerals, herbs or other plant substances, amino acids and enzymes, and organic matter. Tissues, glands, and metabolites are examples of “dietary components” found in these foods.

Dietary supplements are extracts or concentrates that come in a variety of forms, including tablets and pills. Capsules, soft capsules, gel capsules, liquids and powders. Dietary supplements do not require approval from the Food and Drug Administration (FDA) before being placed on the market, but companies must register. We have FDA and manufacturing facilities. Dietary supplements may be sold only to support the structure or function of the body and are not intended to treat any disease or condition, except for certain clearly defined exceptions.

### **B. Functional nutrition:**

The goals of functional nutrition are: Consumers consume fortified foods that are closer to natural foods. Instead of taking nutritional supplements. This is the so-called intensive or strengthening course. nutrition. Food returns to the same level as before it was consumed in processed form. Sometimes nutrients, such as additional vitamin D, are added to milk.

Examples of functional foods include fruits such as strawberries, kiwi, pears, peaches, apples, oranges, and bananas. Vegetables: broccoli, cauliflower, cabbage, spinach, pumpkin.

### **C. Medical Nutrition:**

Medicinal foods are products designed to: They are under medical supervision and require special dietary adjustments. A disease or condition requiring special nutritional requirements according to recognized standards. Scientific principles are established by medical expertise.

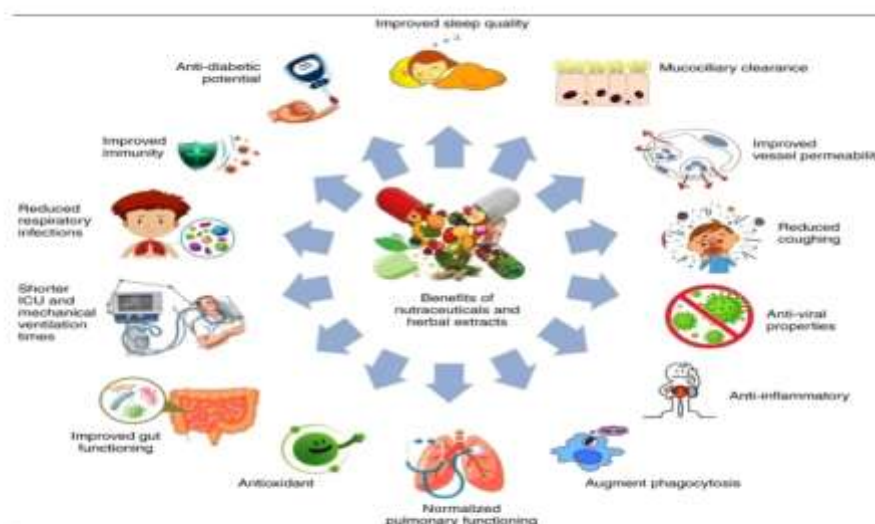
They may cause illness or contain certain nutrients that the body cannot normally obtain. It is caused by certain diseases. It is prescribed by doctors for various diseases. Phenylketonuria, or celiac disease, is a condition that interferes with the ingestion, digestion, absorption or metabolism of traditional foods such as lactose.

### **d. limit:**

Medicines or medications are specifically designed and intended to treat, cure, or prevent the following conditions: The normal state is not part of our physiology.

Additionally, drugs have higher efficacy or biological effects more active than herbal remedies. It is usually found in small amounts in foods. Physiological effects appear only after long-term use.

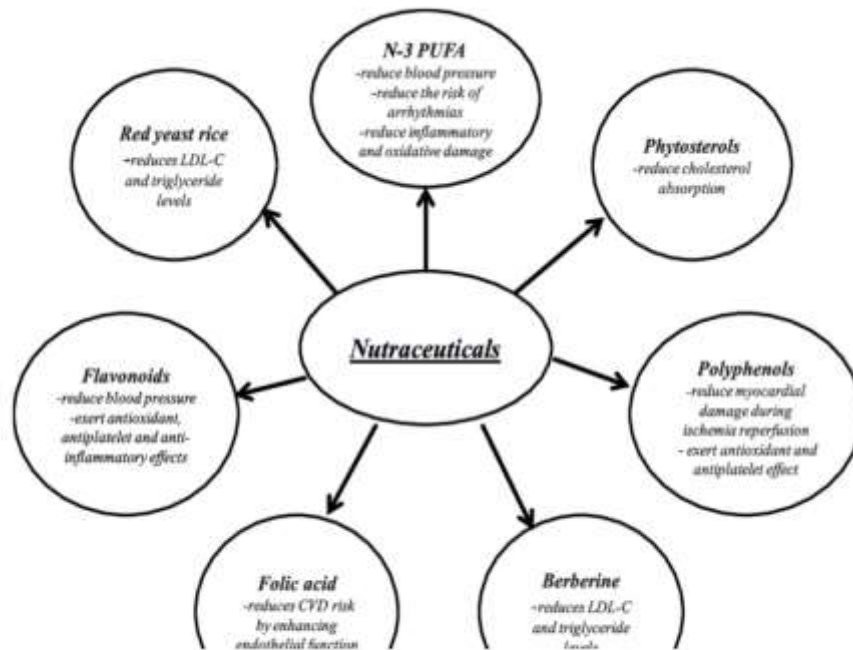
## **BENEFITS OF NUTRACEUTICALS :**



### **Nutritional foods and diseases:**

#### **1. Cardiovascular disease:**

Increased salt levels have been linked to cardiovascular disease. Numerous studies have shown a lower risk of cardiovascular disease. It also contains functional foods such as antioxidants, dietary fiber, and omega-3 polyunsaturated fatty acids. Acids (n-3 PUFA), vitamins and minerals, and physical activity are indicated. Polyphenols found in grapes and wine have been shown to affect cellular metabolism.



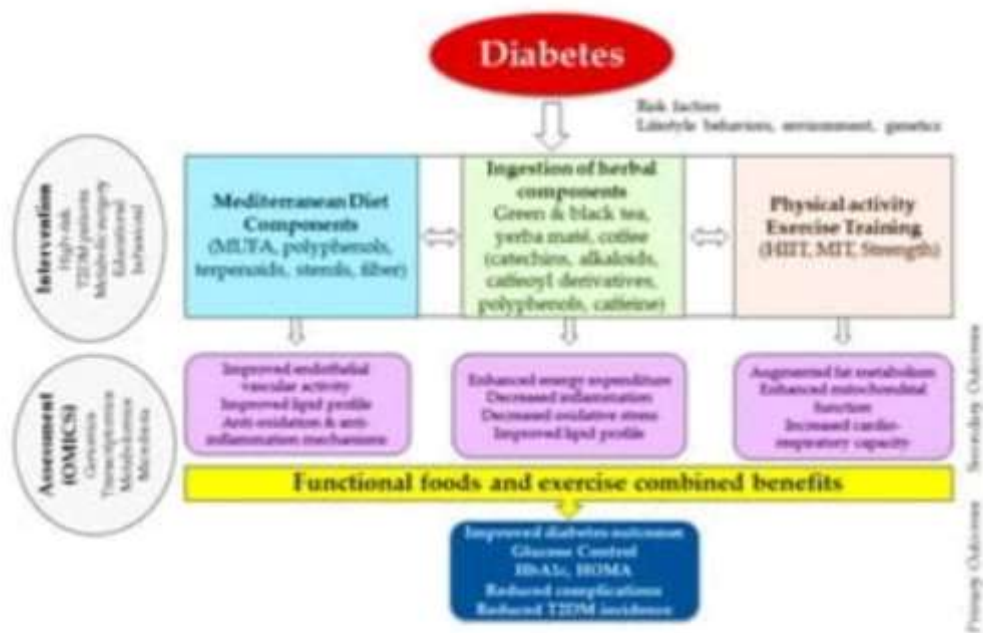
## **2. High blood pressure:**

High blood pressure can be prevented, delayed, reduced in severity, treated and controlled in optimal ways. Diet, nutraceuticals, vitamins, antioxidants, minerals, weight loss, exercise, quitting smoking, limiting alcohol, caffeine and other lifestyle changes.

- It is a nutritional and functional product containing lipoic acid, magnesium, vitamin B6 (pyridoxine), vitamin C, N-acetylcysteine, hawthorn, celery, and -3 fatty acid. It has calcium channel blocking activity.

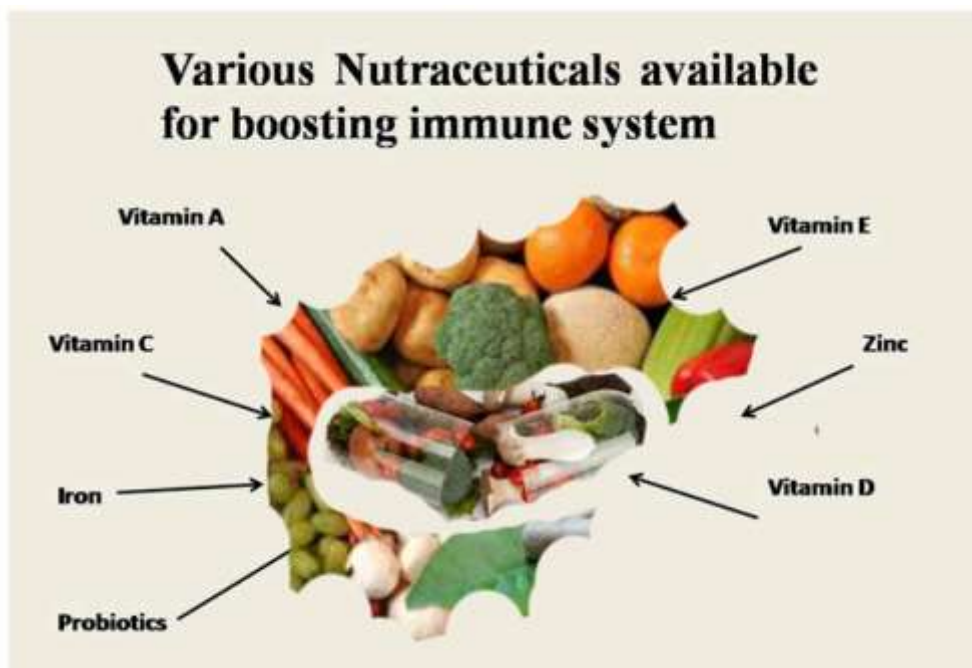
## **2. diabetes:**

Diabetes is characterized by abnormally high blood sugar levels due to insufficient insulin synthesis or lack of insulin effect. Type 1 diabetes is an autoimmune disease (5%). Type 2 diabetes (95%), which is associated with disease and obesity, is the most common type of diabetes. Like most chronic diseases, diabetes not only has a significant economic impact on society, but also has important overall consequences for individual patients and their families.



### 3. Strengthen immunity:

The variety of nutrients in your diet is important for more than just maintaining an “optimal” immune response. The immune state of the body and predisposition to various diseases. Phytoestrogens, a type of herb with hormonal activity, are recommended for: Prevents various diseases related to hormonal imbalance. In this regard, legume isoflavones (genistein, daidzein, biochanin) are receiving new attention as potentially more effective. An alternative to modern synthesizers of selective estrogen receptor modulators. Used in hormone replacement therapy (SERM). Phytochemicals integrate the activity of hormone ligands and interfere with signaling cascades. Their therapeutic use is not limited to hormonal disorders but can also be used for chemoprevention and/or certain inflammatory diseases.



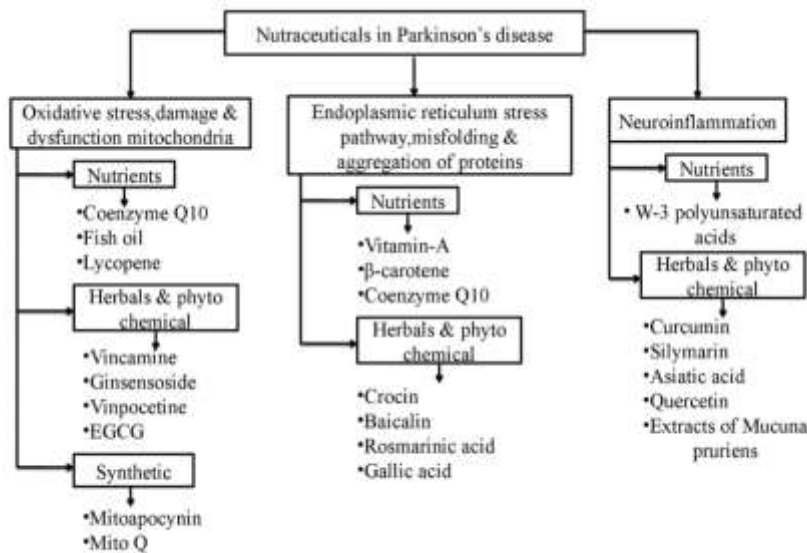
**4. allergy:**

Reaction to medicine or food. Allergies are disorders of the immune system that occur due to hypersensitivity. Allergic reactions usually occur when a person's immune system is weakened. The system generally reacts to harmless substances. Allergic reactions are caused by overactivation of certain white blood cells called mast cells.



**5. Parkinson's disease:**

Parkinson's disease is defined as a brain or movement disorder. This is a disease that occurs when the nerves in a specific area are damaged. The brain causes muscle stiffness, tremors, and difficulty walking. I currently suffer from Parkinson's disease. Some of these supplements are used for Parkinson's disease.



**7. Alzheimer's disease:**

The main clinical symptom is dementia with memory loss. Blood pressure is most commonly diagnosed in people over 65 years of age. Although early onset is less common. Functional foods used for Alzheimer's disease - beta-carotene, curcumin, lutein. Substances such as lycopene and turmeric may have beneficial effects. By neutralizing the negative consequences of certain diseases. Forms of neurodegeneration, including oxidative stress and mitochondrial dysfunction.





### Future outlook:

Functional foods are products made from the following combinations: Through the efforts of the food, pharmaceutical and chemical industries. The herbal supplements segment is expected to be: Significant growth is expected over the five-year forecast period due to the increased risks associated with different lifestyle choices. Diseases such as obesity, high blood pressure, and diabetes progress rapidly. The expanding functional food market is a new era in the health and wellness industry. Health trends are shifting from pharmaceuticals to functional foods. The tremendous growth of the nutraceutical industry is also having an impact on food.

### Conclusion:

Nutraceuticals are widely used in food and dietary products. Most nutraceutical minerals of animal or plant origin include gamma terpene, beta-carotene, curcumin, limonene, eugenol, pinene, safranal, geraniol, aloin, caryophyllene, lycopene, and silymarin. The components are prepared like this. By form of administration: topical, oral, etc. Creams, lotions, ointments, emulsions, Unani preparations, aroma oils, microemulsions, SMEDDS, rolls, tablets, emulsions, herbal compositions, etc. are antidiabetic agents, antidiabetic agents, oral, etc. anti-inflammatory, anticancer drugs, protective agents, etc. are rapidly being replaced by functional foods. Medicines for the prevention and treatment of acute diseases. Functional foods may be the cure of the future. Preventive and medicinal properties.

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