

Nutraceuticals

General Aspects of Nutraceuticals

Definition



- The term "**Nutraceutical**" is derived from "**Nutrition**" and "**Pharmaceutical**" and refers to **food or food-derived substances** that provide **health benefits beyond basic nutrition**.
- They are used for disease prevention, health maintenance, and therapy.

Characteristics of Nutraceuticals

- Derived from **natural sources (plants, animals, microorganisms)**
- Provide **medicinal or therapeutic benefits**
- Help in **preventing or managing diseases**
- Can be consumed as **dietary supplements or functional foods**

Categories of Nutraceuticals

1. **Dietary Supplements:** Vitamins, minerals, amino acids, probiotics, prebiotics.
2. **Functional Foods:** Foods with added health benefits, such as fortified cereals and probiotic yogurt.
3. **Medicinal Foods:** Foods formulated for specific diseases (e.g., medical nutrition therapy for diabetes).
4. **Farmaceuticals:** Genetically modified food products that provide therapeutic benefits.

Sources of Nutraceuticals

- **Plant-based:** Fruits, vegetables, herbs, and spices.
- **Animal-based:** Fish oil, dairy products, collagen.

- **Microbial-based:** Probiotics, fermented foods (e.g., yogurt, kimchi).

Market, Growth, and Scope of Nutraceuticals

Market Overview

- The global nutraceutical market was valued at over \$400 billion in 2023 and is projected to experience significant growth in the coming years.
- **Major Markets**
 - USA
 - Europe
 - China
 - India
 - Japan
- Growth is driven by rising health awareness, an aging population, and increasing chronic disease prevalence.

Market Growth Factors

1. Increasing Demand for Functional Foods and Supplements

- Consumers prioritizing nutrition-based health solutions.

2. Rising Prevalence of Lifestyle Diseases

- Diabetes, obesity, and cardiovascular diseases fueling demand for nutraceuticals.

3. Advancements in Biotechnology and Food Science

- Innovations in bioactive compounds, probiotics, and personalized nutrition expanding the industry.

4. Shift Toward Plant-Based and Organic Products

- Growing consumer preference for natural, chemical-free, and vegan-friendly options.

Scope of Nutraceuticals

1. Preventive Healthcare Solutions

- Managing and preventing conditions like diabetes, heart disease, and cancer.

2. Sports Nutrition and Weight Management

- Enhancing athletic performance, metabolism, and overall fitness.

3. Mental Health Support

- Supplements targeting cognitive function, stress management, and overall brain health.

4. Expansion into Herbal and Plant-Based Nutraceuticals

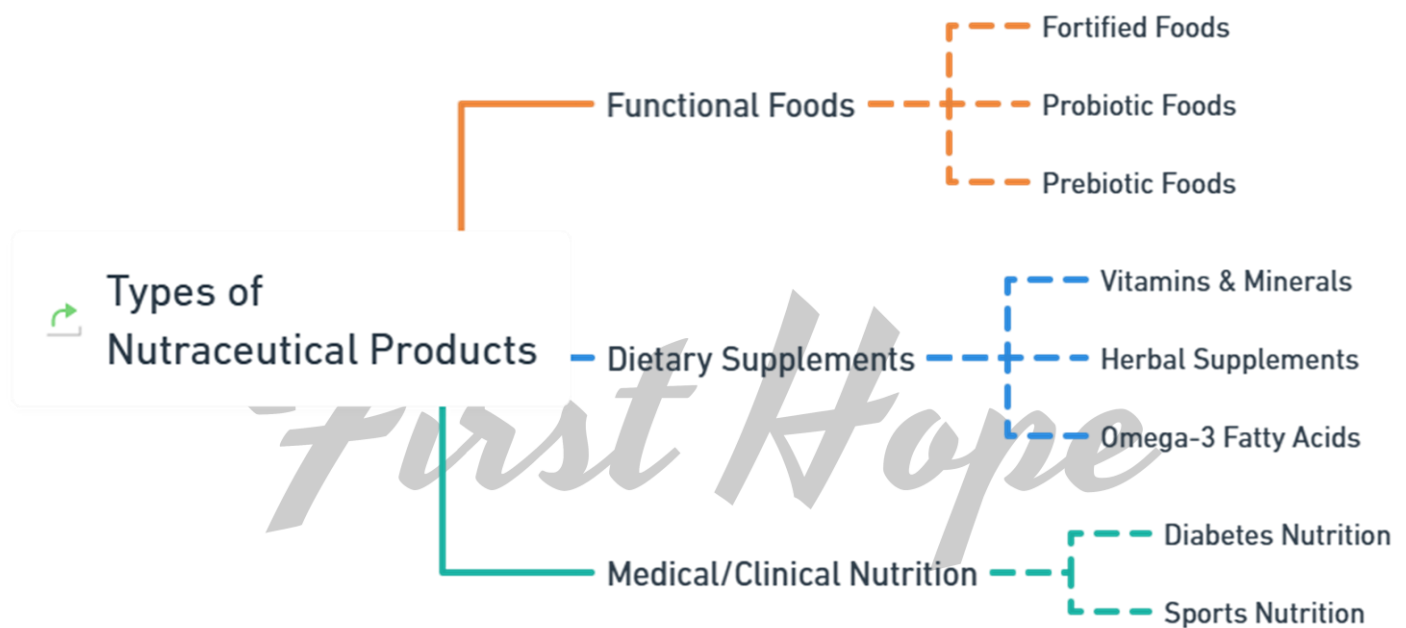
- Ongoing research validating effectiveness of natural bioactive compounds.

5. Personalized Nutrition

- Advances in genomic-based dietary supplements offering tailored health solutions.

Types of Nutraceutical Products Available in the Market

- Nutraceutical products are broadly categorized into Functional Foods, Dietary Supplements, and Medical/Clinical Nutrition.
- These products contribute to health maintenance, disease prevention, and overall well-being.



A. Functional Foods

- Functional foods provide added health benefits beyond basic nutrition.

A. Fortified Foods

- These are nutrient-enriched foods that help prevent deficiencies.
- **Milk with Vitamin D** – Supports bone health
- **Salt with Iodine** – Prevents iodine deficiency disorders

B. Probiotic Foods

- These foods contain live beneficial bacteria that promote gut health.
- **Yogurt with Lactobacillus** – Aids digestion and boosts immunity

C. Prebiotic Foods

- Prebiotic foods support gut health by feeding good bacteria.
- **Fiber-rich foods** – Examples: oats, bananas, garlic, onions



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