

Ayurveda meets innovation:
bridging ancient wisdom and
modern nutraceutical science

Definition of Nutraceuticals -

1) A nutraceutical is a **food or food-related product that provides physiological benefits beyond basic nutrition** and helps to maintain good health.

(American nutraceutical association)

2) Is a category of foods which consists of **extracts, isolates and purified chemical compounds having a physiological benefit** and help to maintain health

(FSSAI)

3) Nutritional products which have effects that are relevant to health. In contrast to pharmaceuticals however, these are **not synthetic substances or chemical compounds formulated for specific indications**. These are products that contain nutrients (partly in concentrated form) and are assigned to the category of food.

(The European Nutraceutical Association)

CONCEPT OF NUTRITION IN AYURVEDA

“स्वस्थस्य स्वास्थ्य रक्षणं
आतुरस्य विकार प्रशमनं।” [चरक संहिता सूत्र ३०।२६]

As per the above, which says to maintain state of healthiness and to cure the diseased ones are the two primary aims of ayurveda shastra.

“तच्च नित्यं प्रयुञ्जीत स्वास्थ्यं येनानुवर्ततेहि
अजातानां विकाराणामनुत्पत्तिकरं च यत्” (चरक संहिता सूत्र 5/13)

One need to take such a kind of diet that not just merely gives nourishment or maintains health, but also avoid occurrence of diseases.

Sattvic foods

Foods that are pure, light, sweet

Whole grains

Milk and Ghee

Beans and legumes

Nuts and seeds

Sweet fruits

Fresh vegetables

Herbs and spices (small amounts)

Natural sweeteners

(honey)

Cold pressed oils

Rajasic foods

Foods that are spicy and stimulating

Eggs

Onions and garlic

Radishes, eggplant, hot

peppers, tomatoes, sea

vegetables

Fermented foods and

yogurt

Refined sugar

Caffeinated drinks

(coffee, soda)

Tobacco and other

stimulants

Spicy, heavily seasoned, or salted foods

Junk and fast foods

Tamasic foods

Foods that are heavy and dull

Red meat, chicken, fish

Mushrooms, onions,

garlic, potatoes, winter

squash

Preservatives or artificial

ingredients

Artificial sweeteners

Alcohol and recreational

drugs

Stale, overripe, or spoiled

foods

Unripe fruits

Fried or burned foods

Frozen and canned foods

Refined grains



Ayurveda & nutraceuticals - A conceptual derivation

“सर्वम् द्रव्यम् पान्चभौतिकम्”

As per ayurveda anything which is made out of the combination of five basic elements(Panchamahabhutas) is said to be a dravya.

And it is made with an inherent relationship between Guna and Karma

❑ **Guna** – Qualities of a Dravya

❑ **Karma** – Action exhibited by the Dravya due to its qualities

The very identity of a dravya or substance can be categorised into two basic ways,

- Anna (Diet)
- Aushadha (Medicine)

When both of these aspects are covered under one roof such a Dravya can be called as a *nutraceutical*.

Concepts in Ayurveda akin to Nutraceutical theory

- ❑ Rasayana
- ❑ Ritucharya
- ❑ Pathya

Rasayana – *Rasa* + *Ayana*

Rasa – Rasadi dhatus or essence of anything

Ayana – Channels or pathways

So, *Rasa* means nutrition and *Ayana* means microcellular channels and hence, *Rasayana* essentially means nutrition at microcellular level.

Eg – Consuming dravyas like Ghee, milk, honey, barley, Amalaki rejuvenates the tissues.

Ritucharya

An elaborate seasonal regimen mentioned in ayurveda including dietic rules as per the season.

Eg – During winter, the body's metabolism slows down, and it requires more nourishment to maintain internal warmth.

At this time, digestion is generally stronger, so heavier and more nourishing foods like cereals, pulses, wheat/gram flour items, new rice, corn, milk and milk items are recommended.

Pathya

Pathya:

- The food that calms the mind
- Beneficial to the body and
- Provides nutrients

Apathya is the opposite of Pathya.

Categories of Pathya (Food)

1. Foods indicated for healthy people.
2. Foods contraindicated for healthy people so as to be not susceptible to any disease.
3. Foods that are indicated to the patient
4. Food that are contra-indicated to the patient

Category 1 foods can be related to the nutraceuticals.

Marketed innovative herbal formulations as nutrients for wellness

Affron[®] is a premium saffron ingredient standardized to 3.5% Lepticrosalides[®], bioactive compounds responsible for the beneficial properties. Affron[®] helps to maintain a positive mood

Ashwagandha and L-Theanine work synergistically to reduce stress, fatigue, and irritability while promoting relaxation, restful sleep, and overall well-being.

Patented phytosome technology which allows for curcuminoids to be more effectively absorbed and offers superior bioavailability

Turmeric and black pepper (Maricha). This oil-based combo is traditionally used to support digestion, circulation, and the body's natural inflammatory response

AYURVEDA knowledge is being modernized into consumer-friendly nutraceuticals & functional foods.

Product Type	Traditional Base	Modern Format	Example Brands
Gummies	Giloy	Immunity gummies	Kapiva, Wellbeing Nutrition
Cookies / Biscuits	Chyawanprash	Chyawanprash cookies	Patanjali, Baidyanath
Bars	Moringa, Spirulina, Ashwagandha	Herbal protein bars	Yogabar (fusion), Kapiva
Chocolates	Chyawanprash	Chyawanprash chocolate	Dabur
Candies / Lozenges	Tulsi, Mulethi, Amla, Ginger	Herbal candies	Dabur, Himalaya, Patanjali
Beverages	Chyawanprash	Chyawanprash shots (drinkable)	Dabur, Baidyanath
Juices	Amla, Aloe Vera	Packaged juices	Patanjali, Kapiva, Baidyanath
Dairy Fusions	Turmeric	Turmeric latte (Golden Milk)	Gaia, OZiva, Organic India

Synergistic Nutrient–Herbal Combinations: An Integrative Disease-Specific Nutraceuticals

Disease / Health Area	Core Nutrients (Vitamins, Minerals, Amino Acids)	Ayurvedic Herbs / Phytochemicals	Synergistic Benefits	Target Group / Positioning
General Wellness & Vitality	Multivitamins, Vit C, Vit D ₃ , Zinc, Selenium	Ashwagandha, Tulsi, Guduchi	Immunity, stress reduction, vitality	Daily wellness supplement
Bone & Joint Health (Osteoporosis, Arthritis)	Calcium, Vit D ₃ , Vit K ₂ , Magnesium, Collagen peptides	Cissus quadrangularis (Nalleru), Boswellia, Pluchea lanceolata	Strong bones, joint lubrication, anti-inflammation	Elderly, post-menopausal, arthritis
Diabetes & Metabolic Syndrome	Chromium, Magnesium, Vit D ₃ , Alpha-lipoic acid	Gymnema, Karela, Fenugreek, Jamun	Improves insulin sensitivity, reduces glucose, protects β-cells	Diabetics & prediabetics
Cardiovascular Health	Omega-3 (EPA/DHA), CoQ10, Vit B6, B12, Folate, Magnesium	Arjuna, Garlic, Guggulu	Lowers cholesterol, improves circulation, reduces oxidative stress	Adults with heart risk
Kidney & Urinary Health	Magnesium, Vit B6, Potassium citrate	Gokshura, Punarnava, Varuna	Prevents stone formation, supports renal clearance	Kidney stone & UTI prone individuals

Synergistic Nutrient–Herbal Combinations: An Integrative Disease-Specific Nutraceuticals

Disease / Health Area	Core Nutrients (Vitamins, Minerals, Amino Acids)	Ayurvedic Herbs / Phytochemicals	Synergistic Benefits	Target Group / Positioning
Mental Health & Stress	Magnesium, Vit D ₃ , B-complex, L-Theanine	Ashwagandha, Jatamansi, Brahmi	Anxiolytic, anti-depressant, stress resilience	Working professionals, caregivers
Women's Health	Iron, Calcium, Vit D ₃ , B12, Folic acid, Omega-3s	Shatavari, Ashoka, Lodhra, Aloe vera	Hormonal balance, reproductive health, PMS/menopause support	Women across life stages
Men's Health	Zinc, Selenium, Vit D ₃ , L-Arginine, Carnitine	Safed Musli, Ashwagandha, Gokshura, Shilajit, Kapikachu	Testosterone support, fertility, energy	Male vitality, fertility
Skin, Hair & Beauty (Nutricosmetics)	Biotin, Vit C, Vit E, Zinc, Collagen, Silica	Amla, Neem, Bhringraj, Aloe vera	Skin glow, anti-acne, anti-aging, hair growth	Beauty-conscious consumers

Synergistic Nutrient–Herbal Combinations: An Integrative Disease-Specific Nutraceuticals

Disease / Health Area	Core Nutrients (Vitamins, Minerals, Amino Acids)	Ayurvedic Herbs / Phytochemicals	Synergistic Benefits	Target Group / Positioning
Cognitive Health / Neuroprotection	Omega-3 DHA, Vit B6, B12, Folate, Magnesium	Brahmi, Shankpushpi, Jatamansi, Ashwagandha	Enhances memory, reduces stress, neuroprotection	Students, elderly (dementia risk)
Respiratory Health	Vit C, Vit D ₃ , Zinc	Vasaka, Tulsi, Licorice, kantakari	Relieves cough, asthma support, lung immunity	Asthma, bronchitis, respiratory infections
Digestive Health & Gut Microbiome	Digestive enzymes, Vit B-complex, Probiotics	Triphala, Ginger, Peppermint, Ajwain, Bilva, Dadima	Improves digestion, gut motility, microbiota balance	Indigestion, IBS, gut health
Obesity & Weight Management	Carnitine, Chromium, Vit D ₃ , B-complex	Garcinia cambogia, Triphala, Varuna, Guggulu	Appetite control, metabolism boost, fat oxidation	Weight management

By blending traditional wisdom with modern nutrition, innovative products can be developed to support pediatric milestones such as cognitive development with proven herbs like *Brahmi* and *Shankhpushpi* to enhance the effectiveness of the product.

Addition of herbal ingredients like *Jamun*, *Yashtimadhu*, *Madhunashini (Gudmar)*, or *Fenugreek* will help in the holistic diabetes management.

Ayurveda Ahara

The Food Safety and Standards Authority of India (FSSAI), in consultation with the Ministry of Ayush, has released a definitive list of Ayurvedic food preparations under the category of ***Ayurveda Aahara***. These preparations emphasise on balance, *seasonal suitability*, and using natural ingredients and herbs known for their therapeutic benefits

Examples:

1) ***Kulatha soopa*** (Soup) – With ingredients like Kulatha (Horse gram), Masha (Black Gram), hingu (Asafoetida), haridra (Turmeric) etc useful in Aruchi (A form of anorexia) (Ref: *Paakadarpanam*)

2) ***Mridvikadi Panaka*** (Drink) - With ingredients like Mridvika (Grapes), Nagakesara (Ironwood tree), Chavya (Javanese long pepper) etc useful in Pittaja fevers. (Ref: *Kashyapa Samhita*)

Classical Āhāra Kalpanā	Meaning (English)
Peya (पेय)	Thin gruel / drinkable rice water preparation
Vilepi (विलेपि)	Thick porridge (more solid than Peya)
Yavagu (यवागु)	Herbal rice gruel prepared with medicated decoction
Manda (मण्ड)	Supernatant thin gruel obtained after cooking rice (easily digestible)
Manda Peya (मण्ड पेया)	Light liquid food, often for the sick
Yusha (युष)	Soup prepared from pulses (like mung, masoor) with herbs/spices
Mamsa Rasa (मांस रस)	Meat soup/broth prepared from specific animal meat for nourishment
Raga / Raga Peya (राग पेय)	Colored/herbal medicated gruel (prepared with specific herbs)
Mantha (मन्थ)	Cold stirred preparation of powdered cereals, jaggery, honey, or herbal powders in water
Panaka (पानक)	Herbal sherbet / spiced sweet drink (often cooling and refreshing)
Phanta (फान्त)	Hot infusion (herbal infusion prepared by pouring hot water on drugs)
Kwatha (क्वाथ)	Decoction (herbs boiled in water until reduced)
Ksheerapaka (क्षीरपाक)	Medicated milk preparation (milk boiled with herbs)
Takra Kalpana (तक्र कल्पना)	Buttermilk-based preparations
Churnas (चूर्ण)	Fine herbal powders used as diet adjuncts (sometimes mixed with food)
Leha / Avaleha (लेह / अवलेह)	Semi-solid herbal jams (e.g., Chyawanprash)
Modaka / Vati (मोदक / वटी)	Herbal balls/pills prepared with food bases like jaggery, ghee, or honey
Saktu (सक्तु)	Roasted flour preparation (often barley/gram, used as quick energy food)
Panīya (पानीय)	Potable herbal drinks / medicated waters
Hima / Sheeta Kalpana (हिम/शीत कल्पना)	Cold infusions (herbs soaked in water overnight)

FSSAI and Ministry of Ayush released a definitive list of Ayurvedic food preparations types and recipes under the category of “Ayurveda Aahara”

Recent official FSSAI order on 25th July 2025, referring to the **Food Safety and Standards (Ayurveda Aahara) Regulations, 2022** specifies Ayurveda-based food products fall under Category A of the regulations.

CONCLUSION

While a direct correlation between modern nutraceuticals and ayurvedic principles is not entirely feasible owing to the fundamental differences in how food and medicine are understood in both systems there is a clear conceptual overlap.

Ayurveda approaches health and nutrition through a broader and more holistic lens, yet many references indicate that it inherently encompasses the principles of what we now term as nutraceuticals.

Though expressed differently, the Ayurvedic system has long recognized the therapeutic potential of certain foods and herbs, aligning closely with the modern nutraceutical concept.