

B. Nutraceuticals can be classified according to their chemical nature and therapeutic properties as follows;

- Minerals
- Antioxidants
- PUFA
- Probiotics
- Prebiotics
- Dietary fibres

Inorganic mineral supplements: Eg: calcium, magnesium, manganese, boron, copper, zinc, phosphorous, etc.

Antioxidants: They are present in fruits, vegetables and fishes. They are used to prevent the reactive oxygen species and free scavenging radicals. Eg: Vit-E, C, A, Beta carotene.

Poly unsaturated fatty acids (PUFA): These are fatty acids which contain more than one double bond and include essential fatty acids. Eg: Omega-3-fatty acids, safflower oil, corn oil, soyabean oil, fish oil.

Probiotics and prebiotics

Probiotics: These are living microorganisms, which when taken with or without food improve intestinal microbial balance and functioning of large intestine. Eg: Bifido bacterium, Lacto bacilli, Saccharomyces cerevisiae, etc.

Prebiotics: These are non digestible substances that provide beneficial effects and protection to the probiotics from gastric acid and digestive enzymes. They also promote the growth of probiotic bacteria. Eg: Oligo fructose, Inulin, Galacto-oligosaccharides, Lactulose.

- It includes the live microbial food ingredient which advantageous to health.
- Their action includes adhesion to gastrointestinal tract at specific sites and their survival lead to elimination of pathogens.
- This category includes selectively fermented ingredients or a fiber that, promote changes in gastrointestinal microflora and its activity providing good effects to the health of host.
- These are the fertilizing agents for the probiotic bacteria in colon.
- These are not affected by gastric pH and digestive acids.

- The example includes insulin which on further hydrolysis gives oligofructose and galacto oligosaccharide.

Dietary supplements and dietary fibers

- A dietary supplement is a product where ingredient are added as a remedy to the deficiencies or diseases.
- A dietary ingredient is one which enhances the food and its nutritional assessment.
- The inclination towards dietary supplements has raised many folds to improve health, fitness, tonic to delay aging, improve performance, and body building.
- Vitamins and minerals as dietary supplements exist in multiple ingredients or single ingredient products in the market.

Dietary fibres are two types viz- water soluble fibres and water insoluble fibres. They are present in fruits, vegetables, grains, legumes, etc. They are used to correct constipation, bowel irregularities, haemorrhoids.