

# **SUM UP BY MR. D.H. PAI PANANDIKER,**

## **CHAIRMAN, ILSI-INDIA**

- No definition but as a working rule, functional foods are foods which give benefits with and beyond basic nutrition and metabolism. This additional benefit comes from bio-active ingredients.
- Functional foods can be natural and have been used for their therapeutic value for a number of centuries in East and West.
- In India, one in every 5 persons suffers at least one chronic disease like CVD, Respiratory and metabolic disorder. Diabetes has already reached its peak and as estimated by WHO, CVD will become a major killer by 2020. There is therefore increasing interest in functional foods in order to reduce risk of disease.
  - ✓ A number of natural products have been identified for their health benefits. Some of the examples quoted were:
    - ✓ Green tea and millets help reducing the risk of Cancer.
    - ✓ Fish, a good source of Omega 3 reduces the risk of CVD.
    - ✓ Foods and vegetables, cocoa are rich in antioxidants and slow down aging.
    - ✓ Garlic contains at least 12 anti-aging constituents.
    - ✓ Fenugreek is a powerful anti-inflammatory agent.
    - ✓ Milk, cheese and yogurt contain anti-inflammatory ingredients.
    - ✓ Strawberries enhance immunity.
    - ✓ Spices like turmeric, cinnamon have strong beneficial health effects.
- Apart from natural foods it has been possible with research to identify bio-active substances which can be added to foods to make them functional. Canola oil, olive oil, rice bran oil and groundnut oil have beneficial health effects. Food fortified with Omega 3 fatty acids, spreads that contain plant sterols, foods enriched and with folic acid, probiotic, yogurt and so on enhance health effects of foods. The addition, removal or replacement of components in foods can be achieved through enzymatic, chemical or technical means. The process is important to maintain or enhance the functionality of the product.
- Functional foods can be immensely useful particularly to young children because of the beneficial effects particularly of iron and iodine on brain development and to lactating mothers for increased nutritional requirements with energy and nutrient dense foods.
- Generally when consumed in adequate amounts and on consistent basis, functional foods aid in decreasing risk by several potential mechanism like lowering blood lipid levels, improving arterial compliance, reducing low-density lipoprotein, decreasing plaque formation, scavenging free radicals and inhibiting platelet aggregation.
- Foods have become functional because they contain plant polyphenols, phytoestrogens, phytosterols and other phytochemicals including organic acids which together comprise the major active secondary metabolite compounds.
- The isolation of these components has made it possible to produce processed functional foods with health benefits.

- Claims about functional foods have to be scientifically substantiated as required by the regulatory authorities.
- Substantiation presumes that the constituent food is properly characterized, the claiming effect is relevant to human health and intake of the concerned food has been sufficiently demonstrated to cause the claimed effect. To understand the efficacy, it is necessary to identify appropriate bio-markers.
- A number of countries have developed guidelines for substantiation of claims. PASSCLAIM in Europe provides the generic tool to access the scientific support for claims.
- Although CODEX has not considered functional foods as such, there are guidelines on nutrition and health claims including function claims.
- For regulatory clearance of functional foods and approval system consisting of expert committee with members from different disciplines should be in place to evaluate evidence, ensure safety and approve analytical method, for food testing by laboratories.
- The regulatory mechanism on functional foods should be established within the existing regulatory system.
- Considering the importance of fruits and vegetables, the consumer should be made aware that 5-6 helpings of fruits and vegetables can contribute immensely to health promotion.
- Functional foods alongwith other factors like balanced diet, physical activity can give the best results.
- Research needs to be undertaken about the way the ingredients in functional foods work and what their dose should be since excess can be toxic.
- It is important to generate simple but effective messages to make the consumer aware and interested in functional foods.