

Indispensability of dietary supplements, nutra

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GOOD nutrition contributes to healthy population that can lead the country towards better socio-economic conditions. Countries do formulate dietary guidelines on a regular basis, to enable its population to lead a healthy life. Nutritious foods support lives, physical growth, development, maintenance of body functions and health.

An ideal diet plan should provide all essential nutrients in the required amounts which of course will vary with age, gender and physical activity levels. Major food concerns focus on insufficient or imbalanced food and nutrients. To add to this, food science experts in India have also expressed concerns over the quality of food, the hygiene both while cooking and packaging.

Surveys by National Nutrition Monitoring Bureau (NNMB) of India reveal that the daily intake of food, including cereals and millets in Indian households is lower than the Recommended Daily Allowance (RDA). The common nutrition-related problems include low birth weight, protein energy and micronutrient malnutrition, chronic energy deficiency in adults and diet related non-communicable diseases. Factors such as explosion in population, urbanisation, moving away from traditional habits, developing unhealthy lifestyle and dietary practices, lack of physical activity and urbanisation contribute to diet-related chronic diseases.

Dietary supplements and overall health

Nutraceuticals include dietary supplements (vitamins and mineral supplements, herbal supplements, protein supplements and so on), besides functional foods and beverages. These are believed to help the population to counteract diseases or delay the onset of certain disease conditions such as joint pains, cardiovascular health, obesity, insomnia, rheumatoid arthritis, and cancer to a great extent. Besides being popular in developed countries, there is an increase in demand from developing nations for such supplements. Consumers want to include the supplements in their daily diet plan to improve overall health, fitness and vitality. Years of existence of alternative medicine in India, with millions of Indians trust in them will

provide a strong foundation for the nutraceutical market. However, the Indian consumers' awareness is limited to nutraceutical ingredients such as Omega-3 fatty acids or lutein and the manufacturers have to take up the cause and create substantial awareness on supplements that have such ingredients. Moreover, India is also emerging as a key sourcing destination globally for natural ingredients, especially for plant extracts, although it is still a nascent market for nutraceuticals.

India is found to be the most potential market for nutraceuticals and dietary supplement products. Indian nutraceuticals market is the fastest growing sector in the Indian food and pharmaceuticals segment and is expected to sustain its growth in the coming years. The increasing wealthy middle-class population in the country is becoming more health conscious. The awareness about the positive impact of using nutraceuticals and dietary supplements is the new phenomenon among young Indians. Approximately 400 million people belong to the middle-class and have the disposable income which makes them capable to buy nutraceuticals and dietary supplements. It is an inevitable fact that affluence is one of the causes of lifestyle diseases, which nutraceuticals and dietary supplements often address. The nutraceuticals market in India has emerged as a growth sector with rising consumer need for preventive healthcare. The market which was estimated at Rs 1,28,446.5 million in 2013, growing at a fast pace, is expected to double its size within the next five years.

Changing lifestyle, ageing population, changing eating habits, increasing disposable income, rising spending power, growing awareness about preventive healthcare, emerging trend towards self-medication, and growing number of pharmacy outlets and retail chains providing easier product accessibility are all anticipated to drive the growth in this market.

A host of pharmaceutical and fast moving consumer goods (FMCG) companies are entering the market, other than nutraceutical and herbal / Ayurvedic companies. Pharmaceutical companies consider nutraceuticals as an extension of the healthcare sector and lead the dietary supplement category. Meanwhile, FMCG companies are

expanding by launching products in the functional food and beverage category. The domestic companies have a strong foothold with 55 per cent of market share as compared to international companies with 45 per cent of market share.

The market is broadly categorised into dietary health supplements, functional food and functional beverage, and is currently at nascent stage with the evolving trends and regulations coming into play. India is one of the largest suppliers of functional ingredients and herbal extracts worldwide, with a potential to emerge as the most rapidly expanding nutraceuticals ingredient market.

Need to ensure efficacy of supplements

The nutraceutical market in India is growing at a CAGR (Compound Annual Growth Rate) 18.5% and clocked around US\$3 billion in 2013-14, according to a recent report. The urban-centric nutraceutical market is gradually gaining traction in the rural region as well. The Indian market currently holds 2% market share of the global nutraceutical market and is expected to double in the next five years. Reduction of faith in Western or modern medicines will also drive the dietary supplements' market here.

As there is this growing awareness on health with abundant information and products easily accessible online, there is also a rising need and obligation by the government and manufacturers to ensure regulating the standard as well as quality and safety of nutraceuticals more specifically dietary supplements. Besides this, India is becoming a global source for natural ingredients and these should be processed under stringent conditions to ensure increasing the global market share for these.

The Food Safety & Security Act, 2006, and the regulation that came into force in 2011 lists down ingredients that a product should have besides specific general properties of nutraceuticals and labelled appropriately. However, this is yet to match the international standards of the US and Europe in overall implementation. Agencies such as HADSA



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(Health Food & Dietary Supplements Association), NIN (National Institute of Nutrition), NMB (Nutrition Monitoring Bureau) are together working to continuously modify the guidelines for the nutraceuticals and dietary supplements industry.

QC, assurance are fundamental to cGMP

Dietary supplements include vitamins, minerals, herbs, enzymes, amino acids, extracts from plants and animals and so on. They help in reducing the risk of specific diseases, relieve the effects to some extent but not intended to treat or cure the disease completely. They should be formulated under careful conditions in clean, controlled laboratories and should be labelled accurately with the ingredients that are actually present in the product. Quality Assurance is the basis to Current Good Manufacturing Practices (cGMP) compliance. The quality of dietary supplements should meet established specifications for

identity, purity, strength and composition. The limits of contaminants such as heavy metals, solvent residues and harmful microorganisms should be specified accurately. Heavy metals such as lead, cadmium, arsenic and chromium are toxic when consumed by humans. They can be carcinogenic, have adverse reproductive effects, produce negative impact on nutrition and can displace other useful metals such as calcium and zinc.

Both raw materials and finished products should be analysed in laboratory which has adequate facilities to perform the necessary tests and examinations. Analytical methods and equipments should be carefully selected with product-specific testing methodology designed and implemented by qualified and relevant manpower. A quality manual should be in place that addresses all critical aspects of laboratory operations. The manual should clearly specify the lab's staff organisation, responsibilities and ownership. Procedures should be clearly defined for sample control

and documentation, analytical methods, calibration, internal quality control, audits, preventive maintenance, corrective actions, data validation and reporting.

It is important to consider and take into account products from a reputed manufacturer or distributor as they are more likely to have been formulated under tight quality controls.

With the nutraceutical market expected to reach US\$5 billion by 2015 in India, showing great growth potential, there is an increasing need for regulatory clarity and its implementation. The future for the industry seems promising with exponentially increasing consumer base and export markets. Both government and manufacturers should take sure steps towards regulation and standardisation of dietary supplements, besides developing innovative delivery mechanism to specific target markets. ○

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