Nutraceuticals and Rasayan Chikitsa- A Review

Nidhi Verma1, Mandip Goyal2, Jitendra Varsakjiya3

1 Ph.D Scholar, Department of Kayachikitsa, Institute for Post Graduate Teaching & Research in Ayurveda (IPGT & RA), Gujarat Ayurved University (GAU), Jamnagar-361008, Gujarat, India
2 Associate Professor, Kayachikitsa, Institute for Post Graduate Teaching & Research in Ayurveda (IPGT & RA), Gujarat Ayurved University (GAU), Jamnagar-361008, Gujarat, India
3 Assistant Professor, Kayachikitsa, Institute for Post Graduate Teaching & Research in Ayurveda (IPGT & RA), Gujarat Ayurved University (GAU), Jamnagar-361008, Gujarat, India

ABSTRACT

Introduction: Today’s sedentary, stressful lifestyle, urbanization etc. more affect the health of human beings worldwide resulting in increase lifestyle-related disorders. As health-related awareness increases in the population, people become more conscious about their future health. This makes to grow public interest towards nutraceuticals and Rasayana therapy which has ultimately resulted in increased life expectancy and thus contributing to rise in elder population. Ayurveda states that the prime objective of it to maintain health which can be achieved by practicing healthy food intake along with Rasayana therapy. The purpose of both nutraceuticals and Rasayan is same that is to achieve healthy life and prevention and treatment of disease. Aims: To find out the concept of Nutraceutical and its relation to Rasayana. Materials & Method: Ayurvedic textual materials were referred mainly with available commentaries of Samhitas, published books of nutraceuticals, pharmacology and internet sources. Result & Discussion: The review revealed that the concept that nutraceutical was prevailing during the Samhita period which aimed at maintenance of healthy life that can be explored in the principle of Rasayana.

Keywords: Ayurveda, Nutraceutical, Rasayan.

INTRODUCTION

The term nutraceutical is a hybrid of nutrition and pharmaceutical and was coined in 1989 by De Felice which laid the foundation for innovation in medicine [1]. It was defined as any substance that may be considered a food or part of a food and provides medical or health benefits, including the prevention and treatment of disease. Such products may range from isolated nutrients, dietary, supplements and diets to genetically modified foods, herbal products, and processed foods such as cereals, soups, and beverages. Health Canada states that nutraceuticals are a product that is prepared from foods, but sold in the form of pills or powders, or in other medicinal forms and can achieve health by maintaining optimum tissues. Thus it can be stated that primarily Rasayan is to achieve healthy life and remain self-dependent for their daily activities to a maximum possible extent. These facts indicate that one objective of Rasayana is to achieve the best nutritional status is quite near to the concept of nutraceutical. Here is an effort to understand nutraceutical in light of Rasayana has been done.

Aims & Objectives:

To review nutraceuticals from modern science and effort to elaborate as Rasayana therapy Ayurvedic point of view.

MATERIAL AND METHODS

To fulfill the aims and objectives relevant Ayurveda and Modern literature, books of nutraceuticals, available information on the internet etc. were searched. The results on search are described hereafter.
DISCUSSION

Quite similar to nutraceuticals which are known to have a physiological benefit or provide protection against chronic disease, Rasayana therapy is also known for the different ways by which Uttam Dhatu can be attained by providing appropriate nourishment. Though various classification and objectives of Rasayana have been mentioned Kanya Rasayana which includes Pranakama, Medhakama, and Sriyamay[4], in particular, are targeted for maintenance and promotion of health. Out of these, Prana Kanya Rasayan is administered to promote the vitality and longevity of life and drugs in single or in combination for this purpose used are Amalaki Rasayana, Tripalia Rasayana, Chyavanaprash Rasayana, Brahmi Rasayana. Medhakama Rasayana is administered to promote intellect, examples are Shankhpushpi, mandookpurni, Guduchi, Yashthimadhu, Ashwagandha, Vacha, Jyotishmati. Sriyamya Rasayana is administered to promote luster such as Amalaki Rasayana. Ayurveda also stated about Rasayan that must be taken by everyone on a daily routine which is known as Ajasir Rasayan, examples are Ghrita and milk. In addition about Aachar Rasayana has also mentioned that means to adopt good conduct which ultimately reduces stress and provide mental health. Along with Rasayana Chikitsa, Vajikaran Chikitsa is mentioned in very elaboration. In this various dietary regimen are prescribed which improves the nourishment of and function of the reproductive organs and vitalizes tissues of reproductive organs, which promote sexual health and results in healthy progeny examples are Brihani Gutika, Vrishya Ksheera, Vrishya Yoga.

Ayurveda pertains to the influence of environmental factors on the physiological factors. The external stressors in the form of environmental factors tend to have an impact on the three biological factors. To neutralize these impacts, some recommendations are made. A unique nutraceutical based on seasonal variations is ‘Ritu Haritaki’ i.e. use of the fruit of Chebulic myrobalans (Terminalia chebula) as per the season. The fruit should be used along with rock salt (Saindhava) in the rainy season, with sugar in autumn, with dried rhizome of Ginger (Zingiber officinale) in early winters, with fruit powder of long pepper (Piper longum) in late winters, with honey in spring and with jaggery in the summer season. Moreover, Bhallataka Rasayana (preparation of fruits of Semecarpus Anacardium) should not be consumed in the summer season. Ayurveda also advocates the uses of Rasayan in relation Aharkala (meal timings), Use of ginger mixed with rock salt before meals are advocated to enhance the appetite and aid digestion. Another example is of Tripalia Rasayana according to which fruit of Chebulic myrobalans are to be consumed after the digestion of the previous meal, of Beleric myrobalans (Terminalia bellirica) before taking food and of Indian Gooseberry (Emblica Officinalis) after taking the meal.

Ayurveda states that sound health depends on three biological forces named as Vata, Pitta and Kapha, which are all-pervading and in their state of equilibrium, are responsible for healthy structural and functional setup. Although different levels of their predominance are said to determine different types of physical disposition (called Prakruti), age-wise also, their levels tend to vary. In brief, while the predominant Kapha in childhood promotes growth and development by supporting the anabolic activities, Pitta in adults maintains a higher metabolic rate and ensures increased productivity/performance, whereas the increased Vata in old age leads to elevated catabolism, wear and tear leads to degenerative changes. For this precise reason, it is important to take these factors into consideration while advocating any nutraceutical. For example, the paste of Indian Pennywort (Bacopa monniera) and Sweet flag (Acorus calamus) along with honey is given to the newborn to pacify the increased Kapha Dosha and to improve the memory of the child. All the Rasayana and Vajikarana formulations are advocated in the young age while Chyawanprash is a Rasayana for old age as well. Along with Rasayan Ayurveda also explained about qualities of Ahar Kalpa (different form of eatables, mainly prepared with rice) is Peya, Vilepi, Mand, Yavagya Ayurveda prescribed 28 Aushdhi Sidha Yavagvas for the different diseased condition. Ayurveda also prescribed various food-based medicine like medicated milk, Ghrita, Kharuradi Taran, Kharuradi Manth, Lajadi Tarpan, Aushadhi Sidha Jal.

Nutraceutical can be classified on the basis of the mechanism of action irrespective of source, based on proven physiological properties among the classes could be antioxidant, antibacterial, anti-inflammatory, anti-hypercholesterolemic, osteoprotective etc. It helps product developer to develop nutraceutical product, some nutraceutical ingredients or mixture are marketed on the basis of that they have been used for many years, another method of grouping nutraceutical is based on upon their chemical groups such as isoprenoid derivatives, phenolic substances, fatty acids, and structural lipids, amino-acid based substances, carbohydrate and derivatives, microbes and minerals. Isoprenoid Derivatives (Terpenoids) –Isoprenoids and terpenoids are terms used to refer to the same class of molecules. These substances are one of the largest group of plant secondary group metabolites. Many popular nutraceutical families such as caretenoid, tochopherol, cotrienol, and saponins also referred to as isoprenoid derivatives because the principal building block molecule is isoprene. Most plant contains essential oils, which contain a mixture of volatile monoterpenes sesquiterpenes.

Limone is found in the essential oils of citrus peels, menthol is the chief monoterpene in peppermint essential oil an animal study proved anticarcinogenic activity of d-limonene in DMPA induced rat mammary carcinogenesis[5]. Two potentially nutraceutical diterpines contain a furan ring, the furan ring component might be very important in yielding some of the potential antineoplastic activity of these compounds[6]. The carotenoids, whose name is derived from carrots are the most recognizable form of coloring pigment with the isoprenoid class. The epidemiological pieces of evidence proved that low intake of vegetables and fruits and carotenoids is consistently associated with a risk of lung cancer in both prospective and retrospective study[7]. Phenolic substances like terpenoids, phenolic compound are also considered secondary metabolites. The base for this very diverse family of molecules is a phenol structure, which is a hydroxyl group on an aromatic ring. From this structure, larger and interesting molecules are formed such as anthocynins, coumarins, phenylpropamides flavonoids, tannins, and lignin. Certain phenolic compounds, such as anthocynins, catechins, pranethocynins, another Non-coloured flavonoid may regulate different signaling pathways involved in cell survival[8]. It is believed that anthocynin pigments and related bioflavonoids found in tart cherries and other red fruits scavenge free radicals, modulate cytokines, reduce DMN degradation, decrease permeability, inhibit cyclogenase, and strengthen biological membranes. Many of these biochemical reactions would be expected to reduce inflammation and edema[9]. Simple coumarins to their biological activities, they have shown to be useful as antitumor anti-HIV agents and as CNS- active compounds, furthermore, they have been reported to have multiple biological activities (anticoagulant, anti-inflammatory), in addition, they have antimicrobial and antioxidant activities[10]. Carbohydrate and
**CONCLUSION**

Nutraceuticals are natural bioactive materials that provide demonstrated physiological benefits or reduce the risk of chronic disease, above and beyond their basic nutrition function. Various micronutrients are extracted from the different plant or animal sources and supplemented along with food to increase the nutritive value of food. Primary principal of Ayurveda is also to keep body healthy. But Ayurveda has a broader vision because Rasayana Chikitsa means rejuvenation therapy. Rejuvenation means to return to youthful condition or to the normal from a diseased state, it also talks about Achar Rasayana that proves mental stability. Which is equally important for physical stability. Ayurveda also described Rasayana to pacify Doshik imbalance. The association of nutraceuticals with traditional medicine is bound to bring the long-lasting consumer acceptance when supported by current modern medical research.

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