



Review Article

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ROLE OF AYURVEDA IN GRACEFUL AGEING: A REVIEW

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ABSTRACT

Ageing is a natural process of oxidation at cellular level that begins at conception and ends at death. Ayurveda considers it as Swabhavaja or physiological degeneration of mental and physical entities with passage of time, which is reflected in the word Shareera (Body) means to continuously degenerate. A person adopting Rasayana Chikitsa (rejuvenation therapy) is bestowed with longevity, good memory, voice, generosity, immense strength to body and sense organs¹. A wide variety of therapeutic management and preventive measures with formulation are explained. Role of Ahara (food) in maintenance of health and longevity is un-questionable but it also has a pivot role to play in prevention and management of Ageing. Use of various Rasayana Chikitsa (rejuvenation therapy) like kuti praveshika (staying in specific cottage), vatatapika (therapy based on exposure to sun and wind), ajasrika rasayana (use of ghee and milk), (naimittika Rasayana (therapy for specific disease) with scientific rationale is beneficial. Vayasthapana dravyas (geriatric care), Medhya dravyas (intellectual drugs) and Achara Rasayana (following disciplinary life) are also extensively used to promote mental faculties and longevity. Antioxidant, immunomodulatory, anabolic, anti-stress, psychotropic, intellect and memory promoter etc. properties of various drugs are proved.

Keywords: Rasayana (Rejuvenation), Jara (Ageing), Free radicals, Antioxidant

INTRODUCTION

India currently has 75 million people over 65 years of age approximately 6.7% of the population. Rasayana (Rejuvenation) is one among the eight major specialties of Ayurveda. Rasayana (Rejuvenation) is a therapeutic modality to achieve immunity promotive, anti-degenerative, rejuvenate health care, preventing the effects of Ageing. It improves quality of life in healthy and diseased individuals. The word Rasayana is composed of words Rasa and Ayana, where rasa refers to Dhathu (Tissue) and Ayana to movement or Marga. Hence, Rasayana basically nourishes Rasadi Dhathus (plasma)². Jara (Ageing) is also understood as Vardhakya. Kalajajara (mature Ageing) is not curable, but vitality of cellular homeostasis could be maintained through Rasayana and Akalajajara (Premature Ageing) can be managed aptly with Rasayana as advocated by Acharyas (Sages). According to Chakrapani, therapy useful in management of diseases and Jara should be considered as Rasayana³.

Rasayana by virtue of Rasa (taste), Guna (quality), Virya (potency), Vipaka (post digestive action) and Prabhava (specific action of drug) promotes digestion, metabolism, maintains equilibrium of Dosha (fundamental elements of body), enhances and promotes physical and mental functions⁴. Judicious use of Rasayana bestows good healthy tissue development and promotes longevity, vitality, happiness, intellect along with immunity. Rasayana provides nutrition to the cells and maintains proper functioning of Agni (digestive fire). Contemporary thinkers have attributed modern concepts of Anti-oxidant, immuno-modulatory, anti-stress, anabolic, anti-Ageing etc. effects to Rasayana. Therefore Rasayana may be considered as time tested modality to treat and manage Ageing. For the

purpose of better understanding and better utility in management, rasayana was classified by acharyas as Kutipraveshikarasayana, Vatatapika Rasayana, Kamyas Rasayana, Naimittika Rasayana, Ajasrika Rasayana and also mention Medhya rasayana, Achara rasayana etc.

DISCUSSION

Kutipraveshika is made of two words; kuti means hut or home and Praveshika means entering. In this method, the person has to stay in a specially designed hut or home undergoing various Rasayana therapies⁵. Person should undergo Panchakarma therapy before undergoing rejuvenation. Many environmental chemicals promote excessive oxidative stress and inflammation and contribute to the risk of neuro-inflammation and neuro-degeneration along with other cellular degeneration.

Environmental risk factors influencing ageing

Environmental chemicals can also alter gene expression and brain development through a variety of mechanisms, increasing the threat of neurodegenerative diseases later in life. Climate change, urban air pollution, deforestation, land degradation, marine pollution and loss of biodiversity, waste chemicals and food and water insecurity are among the major environmental problems. Epidemiological and clinical studies have recognized excessive sun exposure is one among the contributing factor in several skin disorders which includes premature Ageing, inflammatory conditions etc. Many harmful biochemical reactions happen within the skin when it is exposed to excess UV radiation called as Photo Ageing. The major marks of UV irradiation in the skin is in the superficial epidermal layers and which results in the reduction of antioxidants such as alpha-

tocopherol (vitamin E) and ascorbic acid (vitamin C), which decreases the overall antioxidant capacity within the skin. Intake of Rasayana dravyas (rejuvenating drugs) along with staying alone in the kuti (cottage) will help to avoid the person to have a direct contact with the environmental factors and the cell repair will take place faster, contributing to appropriate outcome of Rasayana accomplishments. It is said to be Mahaphalaprada (highly potent) and Amrithasamaana (similar to nectar). The effect is said to be Achintya (beyond understanding), Adbutha (embracing), Ayushkaram (longevity), Arogyakaram (promotes health), Vayasthapanam (anti-Ageing), Nidra (sleep), Tandra (giddiness), Shrama (exertion), Klama (tiredness), Alasya (laziness)⁶.

Rasayana instituted without restriction of exposure to wind and sun is called as Vatatapika rasayana⁹. Here no specific rules or regulations need to be followed. Kutipravesika rasayana cannot be extensively employed in present era due to changing life style and time constraints. In such patients Vatatapika rasayana is beneficial. The person indulging in Vatatapika rasayana can also indulge in day to day activities and routine. Vatatapika rasayana sometimes is also administered without prior Panchakarma therapy. Some special Rasayana preparations are Chyavanaprasha, Amalaki rasayana, Pippali rasayana, Vidanga rasayana, Shilajatu rasayana etc.

Rasayana that promotes intellect are called as Medhya rasayana⁷, among them; foremost are Mandukaparni (*Centella asiatica*), Yastimadhu (*Glycyrrhiza glabra*), Guduchi (*Tinospora cordifolia*) and Shankupushpi (*Covulvulus plucaulis*). Mandukaparni helps to improve circulation, collagen content of skin, and to fight oxidation by improving anti-ageing skin care, maintaining skin firmness and elasticity. Yastimadhu choorna consists of glycyrrhizin which possess free radical scavenging activity. Yastimadhu has been used as an anti-inflammatory and antioxidant primarily because of licochalcone, a molecule contained in licorice root extract which helps to control oil production, and helps for calm and soothing skin. Guduchi choorna has more specific benefits towards glucose metabolism, inflammation, immune support and neurology. Shankupushpi possesses cytoprotective anti-stress effect. It plays an important role in enhancing memory, preventing degenerative changes in cell bodies of neuron in specific brain areas which are commonly involved with ageing people.

Along with physical and environmental factors, mental attributes are also liable for Ageing. The three primary elements underlying both primary and secondary ageing are inflammatory processes, anabolic/ catabolic balance and cardiovascular reactivity. The principal factor in all of these activities is stress. Stereotype is a thought that may be adopted about specific types of individuals or certain ways of doing things. The person who implements negative stereotypes is at a great risk for premature ageing. Achara rasayana includes adopting and practicing proper achara (conduct) and vichara (thinking). The person who follows satyabhashana (truth telling), krodharahita (devoid of anger), shantham (pleasing), will achieve Deerghayu (longevity) and enjoys the Ehaloka and Paraloka ananda⁸. By practicing good conduct in life, Shareerika and Manasikadosha will be maintained in equilibrium state.

Naimittika Rasayana consists of utilization of Bhallataka (*Semecarpus anacardium*), Tuvaraka (*Hydnocarpus laurifolia*), Shilajatu (*asphaltum*) etc. Many forms of Bhallataka are cited like Bhallataka ksheera, Bhallataka kshoudra etc. which bestows Vriddhavastharahita and person survives for 100 years. Bhallataka taila cures all Kaphaja Vyadhi and enhances Medha (intelligence) and Agni (digestive fire). Significant components

of Bhallataka are bhilwanols, phenolic compounds, bioflavonoids, sterols and glycosides which are evidenced to be having antioxidant, anti-inflammatory, anti-lipid, anti-glycaemia and anti-tumor action that cures skin diseases and many ailments. Shilajatu comprises resins, fatty acids, benzoic and hippuric acids, albinoids, amino acids, humic constituents and number of minerals found useful in management of hyperglycemic stage. It also upholds cell integrity in both normal and tumor cells. Added proven white blood cell activity by the extract of Shilajatu is evident. The nootropic, anti-anxiety, anti-ulcer, anti-viral and anti-fungal effect is significantly evidenced. Chief component of humic substance is fulvic acid which possesses properties like anti-oxidant, anti-inflammatory and memory enhancer as it is well absorbed in intestinal tract because of its low molecular weight. Shilajatu pacifies all disorders and enhances Uttamabala (good health). Chief Constituents of Tuvaraka are cajaninstilbene acid, pinostrobin, vitexin and orientin, flavonoids and stilbenes which are found to be antioxidant and possess free radical scavenging property. Apart from that it is world widely used in diabetes, dysentery, hepatitis, malaria, wounds and bedsores.

Air and water pollution, global warming and climate change have been affecting our body's immune system along with Ageing process. Regular practice of Yoga helps the body to produce endorphins which are endogenous opioid peptides which act as neurotransmitter produced in pituitary and hypothalamus. Some poses employed in yogic practice directly work on parasympathetic nervous system by retaining the normal heart beat and dilating the blood vessels. Yoga aids to improve and boost the immune system, which will help the body to stay strong and healthy despite free radicals and other adverse health factors. The common technique of yoga practice is breathing through one nostril at a time. It helps for the better communication between the right and left side of the brain and thereby bestows normal mental status.

Panchakarma modalities are having extraordinary role in prevention as well as management of the ailments of geriatric group. Panchakarma therapies help to bring about homeostasis of body humors, cleansing of channels and elimination of the Doshas from the body. Acharyas has illuminated several Panchakarma modalities including Snehana (oil administration), Abhyanga (oil massage), Nasya (nasal drops), Basti (medicated enema), Shirodhara (pouring medicated liquid on head) etc. According to Acharya Susrutha, Basti acts as Rasayana and Vajeekarana. Various Basti yogas are enlightened in our classics. Among them valuable one is Yapana Basti. Different Yapana Basti's are revealed in our classics with their significance. They are held to be Ayu pradhana and Deerkhakaalanu varthi. Panchakarma got wide range of advantages like sexual virility, anti-Ageing, rejuvenator, maintains proper Agni and maintains homologation.

Free radicals are one of the responsible agents for the Ageing. It causes damage to cells and tissues resulting in different disorders including Ageing. Atoms often complete their outer shells by sharing electrons with other atoms. Molecules attain stability when atoms combine together by sharing electrons. Antioxidants are the constituent which exists in our body which basically fights against free radicals. They help to neutralize free radicals which are responsible for the Ageing. Antioxidants neutralize free radicals by donating one of their own electrons. Vitamin A,C &E will slow down the process of Ageing by preventing free radicals from oxidizing sensitive biological molecules or reducing formation of free radicals.

Development of oxygen free radicals are influenced by immune reactions. When infection or immune system reaction takes place, blood supply is been increased. Excess oxygen will be consumed for the phagocytosis resulting in formation of free radicals. Rasayana drugs influence the course of immune reaction by stimulating it.

Stress is defined as “a state of mental or emotional strain or tension resulting from adverse or very demanding circumstances”. Stress is caused by stressors (heat, cold, environmental factors, bacteria etc.) if sets in body, body tries to counteract it by changing the homeostatic mechanism. In our body the stress response is controlled by hypothalamus. It is scientifically established that inter-leukin-1 secreted by macrophages is having important link between stress and immunity. Rasayana dravyas stimulates both cellular and humoral immunity mediated through the activation of the psycho-neuro-endocrine immune axis.

Anabolism is defined as building up of complex chemical substance from smaller components. Rasayana dravya will help in tissue repair and nutritional deficient of tissues. Apparent weight gain and Dhathuvarhdhana is possible through Rasayana.

CONCLUSION

Rasayana effects include immune modulatory, longevity enhancing or cognition enhancing. The main purpose of Rasayana therapy in general is to delay the Ageing process and to minimize the degenerative process in the body. Those specific to brain are called Medhya rasayana. Such Rasayanas retard brain Ageing and help in the regeneration of neural tissues besides providing anti-stress, and memory enhancing effect.

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