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RASAYANA AS ANTIOXIDANT: AN AYURVEDIC PERSPECTIVE

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ABSTRACT

Ayurveda is the science of healthcare system not only deals with physical and mental health but also gives importance to the spiritual health of people. Oxidative stress may be considered responsible for most of the diseases now as day, lack of dietary antioxidants supplements and generation of the free radicals induces diseases associated with oxidative stress. Ayurveda believe that *Rasayana* drugs offer significant relief in condition of oxidative stress since *Rasayana* impart superior *Rasa* and *Dhatu*s which help to scavenge oxidative stress, this article described antioxidant potential of *Rasayana*.

KEYWORDS

Ayurveda, *Rasayana*, Oxidative stress and Antioxidants.

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INTRODUCTION

Free radicals generated in body due to the various biochemical procedures and these free radicals may paired with biological molecules such as proteins, lipids and nucleic acid which damage paired macromolecules and leads various diseases associated with oxidative stress such as; cancers, atherosclerosis, inflammatory diseases, cardiovascular diseases and aging. Human body possesses ability to combat against the free radical damage by enzymatic action of superoxide dismutase and catalase. The nutritional component of body such as; ascorbic acid, Tocopherol and glutathione also decreases free radicals induce

oxidative stress, due to the pathological processes this protective mechanisms disturbed sometimes, therefore body seeks antioxidant supplements from outer sources.

Aim and Objectives

- To study the concept of oxidative stress and antioxidants.
- To establish relationship between *Rasayana* drugs and their antioxidant potential.

MATERIAL AND METHODS

The various literatures were reviewed as follows:

- Sushrut Samhita Sutra Sthana, Chikitsa Sthana.
- Agnivesh, Charaka, Dhridhabala- Charak Samhita
- Sharangdhara Samhita
- Modern literature

Methods

1. Elaborating adverse effects of oxidative damage.
2. Data presentation regarding benefits of *Rasayana* drugs in oxidative damage.

Oxidative stress and Antioxidants

Various biochemical process occurs in body which resulting generation of free radicals; highly reactive moiety which attack bio-molecules and thus modifying basic compositional structures of affected bio-molecules, the pairing of free radical with biological components leads oxidative stress resulting pathological conditions. Antioxidants are substances which reduce this type of oxidative damage, vitamin such as; vitamin C, Vitamin E and beta carotene act as antioxidants. These antioxidants prevent diabetes mellitus, heart disease, liver disease, auto-immune disorders and cancer.

RASAYANA DRUGS

The *Rasayana* drugs offer benefits of *Rasadi Dhatus*. Ayurveda described various plants as *Rasayanas* such as; *Amlaki*, *Ashwagandha*, *Yashtimadhu* and *Guduchi*. These drugs enhances nutritional intake and qualities of *Dhatus* which leads longevity, improve strength and *Ojabala*. The *Rasayana* drugs offer relief in stress, fatigue, early symptoms of ageing and auto immune diseases. The antioxidant

potential of *Rasayana* drugs possess benefits like; *Vayasthapana* (delaying ageing), *Balakara* (strengthen the body) and *Roga-apaharana* (improve immunity).

***Guduchi* (*Tinospora cordifolia*)**

Guduchi is used as a *Rasayana* it improves immune system and resistance against infections. It contains alkaloid and polyphenols which offer antioxidant potential. *Guduchi* improves *Agni* and therefore digestion, metabolism and immunity against infections. It opens *Srotas* and thus circulatory process which resulted anti-stress actions. The consumption of formulation which consisted of *Guduchi* improves quality of *Rasa* and possesses all beneficial effects of *Rasayana* therapy; including antioxidant activity. *Guduchi* contains trace elements such as; zinc and copper which protect cells from oxidative damage due to their antioxidants potential.

***Ashwagandha* (*Withnia somnifera*)**

Ashwagandha possess rejuvenating effect, promote growth in children and offer significant anti-aging effect, its antioxidant potential attributed to the phyto-constituents presents in plant. *Ashwagandha* believed to maintain oxidation process by pacifying *Tridoshaic* balance. The *Ashwagandha* help to prevent premature aging due to their strong antioxidant potential.

***Yashtimadhu* (*Glycerrhiza glabra*)**

Yashtimadhu is an herb belonging to the family *Fabaceae*, mainly roots used for therapeutic purpose. It possesses significant antioxidant potential and this property may be attributed to the presence of constituents such as; phenolic compounds, flavonones and iso-flavones. *Yashtimadhu* offer cytotoxic activity and may be indicated for tumor. Free radical scavenging and antioxidant capacity of *Yashtimadhu* towards LDL oxidation established by various researchers. It offer anti-hypoxic activity associated with antioxidant potential. It also maintains circulation and balances the sugar levels in the blood.

***Amla* (*Emblica officinalis*)**

Amla considered as sources of antioxidants by ancient Indian system of medicine. *Amla* contains rich amount of "Vitamin C" which offer prominent antioxidant potential and thus possess healing and

immune response and acts as nutritional supplements. *Amla* boost immune system and reduces risk of cancer, diabetes, stroke, heart disease, inflammation, brain degeneration, liver disorders and digestive problem. *Amla* heal cells damaged after oxidative stress, it provide significant anti-aging effects. *Amla* offers beneficial effects internally as well as externally. Its antioxidants properties protect against UV rays and maintain skin integrity. *Amla* prevents breaking down of collagen which keeps the skin elastic hence therefore prevent sagging, fine lines and wrinkles.

DISCUSSION

Antioxidants play significant role towards the delaying aging, prevention of disease and decreases risk of cancer. Ayurveda described various *Rasayana* drugs such as; *Amla*, *Ashwagandha* and *Guduchi*, etc. which offers prompt antioxidant potentials. The antioxidant activity of these *Rasayana* drugs are due to the presence of constituents such as; vitamin C, carotene, riboflavin, with anolide, tanins, gallic acid and polyphenols. It is believed that *Rasayana* drugs increases collagen fibrin synthesis, absorption of iron and levels of natural antioxidants; dismutase, Catalase, Glutathione peroxidase therefore reduces risk of oxidative stress.

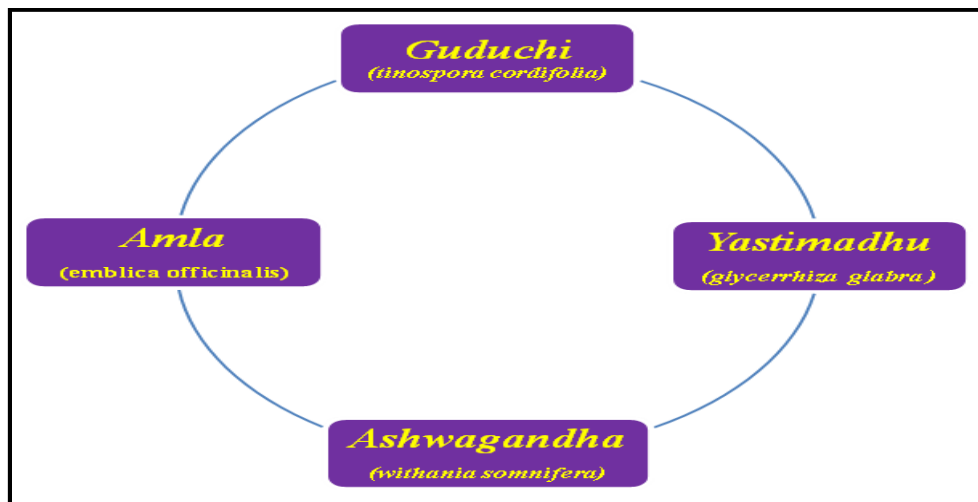


Figure No.1: Examples of *Rasayana* herbs which possess antioxidant potential

CONCLUSION

Plant polyphenols, tannins and flavonoids possess significant antioxidant potential therefore plant based formulations and herbs used exclusively as antioxidant compound. *Rasayana* are drugs mentioned by Ayurveda cure disease and boost physical and mental health. *Rasayana* drugs offer longevity, improve memory, intellect, luster and strength. *Rasayana* drugs are used as rejuvenators and nutritional supplements in various clinical indications. *Rasayana* drugs also possess antioxidant activity and suppress activity of oxidative stressors and thus reduce production of free radicals. Therefore *Rasayana* drugs offer therapeutic potential against the diseases associated with oxidative stress; auto immune diseases, cancer and tumor.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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