



## ROLE OF DIFFERENT RASAYANA DRAVYA IN OXIDATIVE STRESS – A REVIEW STUDY

### Ayurveda

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### ABSTRACT

**Background** – In today's era diseases are due to "oxidative stress" increase being realized that many of that result from an imbalance between formation and neutralization of free radicals. In all *Ayurvedic* scriptures *Rasayana chikitsa* is a unique branch of *Ashtang Ayurveda*. *Acharya Charaka* has described in *Rasayana chikitsa* chapter 1/1(7-8) the word of *Rasayana* means the way for attaining excellent *rasadi dhatus* (the nourishing fluid which is produced immediately after digestion etc). Several medicine plants have been described as *Rasayanas* in *Ayurveda*.

**Aim & objective** - The main objective of this study is to increase the awareness of the *Rasayana* therapy is effective in different oxidative stress diseases.

**Material and methods**- The authentic subject material has been reviewed from *Ayurveda* and modern medical literature. Selected articles from oxidative stress (*mano rog*) literature were reviewed and used as the basis for the discussion of how *Tridosha* & *manovaha* srotas interact with each other and affect patient's quality of life and selection of appropriate management like *Rasayana* therapy.

**Discussion and results**- This study is mainly focused on *Rasayana* therapy effects of commonly oxidative stress and premature aging. Oxidative stress disease produces anxiety, depression, and other psychological problems that affect the patient's life in many ways comparable to Arthritis, Asthma or other disabling illnesses.

**Conclusion** - *Rasayana* is helpful prevention of oxidative stress underappreciated. In this way, the present review has made a humble effort in clearly understand *Rasayana* useful in oxidative stress.

### KEYWORDS

*Mano rog, oxidative stress, Rasayana therapy*

### INTRODUCTION -

Today's we are realizing that many of diseases increasingly being are due to "oxidative stress" that results from an imbalance between formation and neutralization of free radicals and they (free radicals) are produced in the body as byproducts of normal metabolism, as a result of exposure to radiation and some environmental pollutants. 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. Free radicals are normally neutralized by efficient systems in the body that include the antioxidant enzymes and the nutrient-derived antioxidant small molecules (vitamin E, vitamin C and uric acid). In healthy individuals, a delicate balance exists between free radicals and antioxidants. In some pathologic conditions such as diabetes and in critically ill patients, oxidative stress causes the level of antioxidants to fall below normal. Antioxidant supplements for such conditions are expected to be of benefit. As a preventive measure against certain diseases, the best approach for healthy individuals is to regularly consume an adequate amount of antioxidant-rich foods or herbs.<sup>1</sup>

*Rasayana Chikitsa* (rejuvenation) is a unique branch of *Ayurveda*. The word "*Rasayana*" means the way for attaining excellent *Rasadi Dhatus*. The improved nutritional status and the better qualities of *Dhatus* lead to a series of secondary attributes of *Rasayana*, which bestow longevity, impart strength, *Ojabala*, etc.<sup>2</sup>

### Aim and Objectives -

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

### MATERIAL AND METHODS –

Facts for this study were obtained out by literature search and critical review. The pathogenesis of oxidative stress was studied from modern medicine textbooks of various authors and by searching various online medical research databases like pub med, Google scholar and other national research data bases. The study of various *Ayurvedic* texts were made critically and an effort is made to understand the complete pathogenesis of oxidative stress in terms of *Ama* or free radicals and benefits of *Rasayana* drugs in oxidative damage.

### Oxidative stress -

It is 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 -

They 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 –

*Acharya Charaka* has described in *Rasayana chikitsa* chapter 1/1(7-8) the word of *Rasayana* means the way for attaining excellent *rasadi dhatus* (the nourishing fluid which is produced immediately after digestion etc). *Ayurveda* described various plants as *Rasayanas* such as; *Amalaki*, *Ashwagandha*, *Yastimadhu* 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).

### Ashwagandha (Withnia somnifera) -

*Ashwagandha* believed to maintain oxidation process by pacifying *Tridoshaic* balance. The roots of the plant are categorized as *Rasayanas* and described to promote health and longevity by augmenting defenses against disease, arresting the ageing process, revitalizing the body in debilitated conditions and thus creating a sense of well-being.<sup>3</sup> The extract of *W. somnifera* has analgesic, mildly sedative, anti-inflammatory, and anabolic activities.<sup>4</sup> It is useful in stress, strain, fatigue, skin diseases, diabetes, gastrointestinal diseases, rheumatoid arthritis, epilepsy.<sup>5</sup>

### Guduchi (Tinospora cordfolia) –

It improves immune system and resistance against infections, so it is used as a *Rasayana*. *Guduchi* improves *Agni* and therefore digestion, metabolism and immunity against infections. It opens Srotas and thus circulatory process which resulted anti-stress actions and improves quality of *rasa*. *Guduchi* contains trace elements such as; zinc and copper which protect cells from oxidative damage due to their antioxidants potential.<sup>6</sup>

### Amla (Embllica officinalis) -

Ancient Indian system of medicine has considered *Amla* as a sources of

antioxidants by contains rich amount of “Vitamin C” which offer prominent antioxidant potential and thus possess healing and immune response and acts as nutritional supplements. *Amla* heal cells damaged after oxidative stress, it provide significant anti-aging effects and boost immune system. It's offers beneficial effects internally as well as externally and protects against UV rays and maintains skin integrity by antioxidants properties. *Amla* prevents breaking down of collagen which keeps the skin elastic hence therefore prevent sagging, fine lines and wrinkles<sup>7</sup>.

#### ***Yastimadhu (Glycyrrhiza glabra) -***

*Yastimadhu* 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; flavonones and iso-flavones. Free radical scavenging and antioxidant capacity of *Yastimadhu* towards LDL oxidation established by various researchers. It also maintains circulation and balances the sugar levels in the blood<sup>8</sup>.

#### **DISCUSSION –**

*Ayurveda* described various *Rasayana* drugs such as; *Ashwagandha*, *Guduchi*, *Yastimadhu* and *Amla* etc. which offer 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.

#### **CONCLUSION –**

*Rasayana* is helpful prevention of oxidative stress underappreciated. In this way, the present review has made a humble effort in clearly understand *Rasayana* useful in oxidative stress.

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