

## Antioxidant properties of indigenous medicinal plants

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### I. INTRODUCTION

Antioxidant are compounds found in food and carry health protecting factor . The main source of naturally occurring antioxidants are whole grains, fruits and vegetables. Oxidative stress caused by photons and oxygen can be prevented by antioxidants produced by plants. Health care system of india is controlled by traditional herbal medicines. Ayurveda provides potential leads to find active and therapeutically useful compounds from plants. Oxidative stress is the root cause of the development and progression of many kinds of diseases. Supplementation of antioxidants both exogenously and endogenously is a promising way of combating the undesirable effects of reactive oxygen species induced oxidative damage. Plants have an innate ability to synthesize and form a wide range of antioxidants capable of attenuating reactive oxygen species induced oxidative damage.

Herbal antioxidants serve as rejuvenators from the very beginning of Ayurveda. Considering the growing interest in assessing the antioxidant property of Herbal medicine. We will discuss about plants with antioxidant property

1 Withaniasomnifera commonly called Ashwagandha belongs to Solanaceae family. It is called Indian Ginseng. The medicinal properties are attributed to its tuberous roots Indian system of medicine it is widely used in alleviating stress induced illness. The main Phytochemical constituents are withanolides, these are triterpene lactones namely withaferin A, alkaloids, steroidal lactone, tropical and cuscohygrine.

2 Amaranthuspaniculatus is a popular leafy vegetable plant commonly used as vegetable and is a good source of dietary antioxidant. This leafy vegetable crop is grown for their protein, vitamin and mineral rich leaves and stem. This plant has high antioxidant activity because of presence of antioxidant metabolites such as Amaranthine, ascorbic acid flavonoids, hydroxycinnamic acids, phenols and hydroxybenzoic acid This plant is known for its important role in the prevention of

free radical diseases associated with aging, obesity, cancer and cardiovascular diseases.

3 Coccinia indica is a climbing perennial herb. This plant can spread vegetatively and by seed the seeds are valuable source for oil and protein. The leaves show anti diabetic, anti inflammatory, analgesic, antipyretic, anti microbial and cathartic activities. It is also rich in bioactive compounds such as alkaloids, saponins, cephalandrine and lupeol, cucubbitachin, cephalandrol, and flavonoids.

4. Coriandrum sativum is a popular culinary and medicinal plant of family Apiaceae. The antioxidant and anti-cancer properties of C. sativum is due to  $\beta$ -carotene, Cryptoxanthin epoxides, lutein 5-6 epoxide, violaxanthin and neoxanthin. This herb has the potential of preventing oxidative stress related diseases and would be useful as supplements used in combination with conventional drugs to enhance the treatment cancer.

5 Coccinulshirsutus It is a tropical creeper commonly called broom creeper. It belongs to family Menispermaceae. This vine is native to India, Pakistan and Africa. Antioxidant properties of aerial parts indicate its effectiveness against free radical mediated diseases.

6 Zingiber officinale is a Rhizome which belongs to family Zingiberaceae. The Indian system of medicine recommends the use of ginger as a kaya karpam or rejuvenator. It is used in both fresh and dried form to treat nausea, vomiting, osteoarthritis, diabetes mellitus, indigestion and some cardiovascular diseases. Ginger also has antioxidant, anti-inflammatory anti cancer and anti microbial properties.

7 Azadirachta indica commonly called neem belongs to family Meliaceae. This tree has been used by people from times immemorial. All parts of this tree is used in treatment of various ailments in the Indian systems of medicine. Neem has antioxidant, anti-inflammatory anti microbial anti cancerous and immune modulatory properties.

8 Moringa oleifera belongs to family Moringaceae. Phytochemical analysis indicates that the stem bark of moringa has antioxidant properties .

9 *Asparagus racemosus* commonly called shatawari belongs to family Asparagaceae. It has an important constituent called saponins. Besides saponins other substances such as alkaloids, polyphenols and flavonoids are also present. Its antioxidant activity is due to superoxide anion radical scavenging activity.

10. *Annona squamosa* belongs to family Annonaceae, It is a tree commonly called Sitaphal. Fruit is edible known for its antioxidant properties. Chief constituents are super oxide radicals, flavonoids

#### Conclusion

To protect cells and organs of the body against reactive oxygen species (Hu 2003, jaishree 2003, jain 2007, Fitoterapia 2008). It is very essential to intake Indian spices and medicinal plants as a part of dietary appetite (Ismail 2009, jain 2008, jayshree 2003). This will help to maintain antioxidant status within human body and will help in normal physiological functioning of living system.

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