

# Therapeutic Potential of *Emblica officinalis*-A Review

Nivaasini Sivarajah

Saveetha Dental College

**Abstract:** *Emblica officinalis* or *Phyllanthus emblica* (amla) are widely used in the Indian system of medicine are believed to increase defense against disease. *Emblica officinalis* is rich in antioxidant. This berries have the highest amount of naturally occurring vitamin C. It has anti-viral, anti-bacterial and anti-fungal activities. *Emblica officinalis* is amazingly effective natural anti-ageing product. *Emblica officinalis* is very effective in treatment of Acidity and Peptic ulcers. It is an ingredient of many Ayurvedic medicines and tonics, as it removes excessive salivation, nausea, vomiting, giddiness, spermatorrhoea, internal body heat and menstrual disorders. *Emblica officinalis* is rich in Vitamin C, Calcium, Iron, essential amino acids and many other vitamins and minerals and anti-oxidants. The gelatinous plum-sized Amla fruit contains heat stable vitamin C.

**Keywords:** *Emblica officinalis*, antioxidant, Therapeutic Potential

## 1. Introduction

*Emblica Officinalis* is the most celebrated herb of traditional system in Asia. It is also known as Gooseberries or amla. Gooseberries are also called as *Amalaki* or *Dhatrighala* in sanskrit<sup>4</sup>. *Emblica officinalis* enjoys a hallowed position in Ayurveda an Indian indigenous system of medicine<sup>1</sup>. *Emblica officinalis* is a small to medium sized deciduous tree belonging to family Euphorbiaceae<sup>2</sup>. The active ingredient of Amla constitutes gallic acid or ellagic acids structures attached to the vitamin. C. The fresh fruit contains more than 80 per cent water besides protein, minerals, carbohydrates and fibre. The mineral and vitamin contents include calcium, phosphorus, iron, carotene and vitamin B complex. Even if dried in shade, amla retains much of its vitamin C. The leaves and bark of the tree are rich in tannin<sup>4</sup>.

Therapeutic Potential of *Emblica Officinalis*

### a) Antioxidant Activity

The Amla is a rich source of vitamin C and low molecular weight hydrolysable tannins. This makes Amla a good source of antioxidant. The mechanism of action of antioxidant activity has been due to recycling of sugar moiety and conversion of the polyphenol into medium and high molecular .*E. officinalis* increases the levels of GSH, antioxidant capacity and activities of antioxidant enzymes weight tannins<sup>12</sup>. With an ORAC (Oxygen Radical Absorbance Capacity) value of 1770, Amalaki has almost twice the antioxidant power of acai and about 17 times that of pomegranate<sup>4</sup>.

### b) Hypolipidemic Activity

The silent epidemic of ischemic heart disease, type 2 diabetes mellitus (T2DM), hypertension, and stroke is been currently faced in India<sup>5</sup>. Peroxisome proliferator-activated receptors (PPARalpha) is known to regulate the transcription of genes involved in lipid and cholesterol metabolism. *E. officinalis* significantly increased the hepatic PPARalpha protein level, administration of *E. officinalis* significantly inhibited the serum and hepatic mitochondrial thiobarbituric acid-reactive substance level.

### c) Cancer Preventive Effects Activity

*Phyllanthus emblica* has been prescribed in the traditional ayurvedic medicine for the treatment of various ailments<sup>9</sup>. The potential anticancer effects of aqueous fruit extract of *P. emblica* was tested in several different human cancer cell lines such as A549(lung), HepG2 (liver), HeLa (cervical), MDA-MB-231 (breast), SKOV3 (ovarian) and SW620 (Colorectal)<sup>10</sup>. *P.emblica* extract significantly inhibited the growth of several human cancer cell lines. Triphala significantly increased the antioxidant status which might have contributed to the chemoprevention<sup>9</sup>.

### d) Diarrhoea Activity

It is used medicinally for the treatment of diarrhoea. As a fruit decoction it is mixed with sour milk and given by the natives in cases of dysentery<sup>2</sup>. The bark partakes of the astringency of the fruit. A decoction and evaporation of the root solution produces an astringent extract equal to catechu. An infusion of the leaves with fenugreek seed is given for chronic diarrhoea<sup>4</sup>.

### e) Antimicrobial and Antimutagenicity

Amla has been reported for the antimicrobial activities. The plant have been reported to Possess potent antibacterial activity against *Escherichia coli*, *K. ozaenae*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *S. paratyphi A*, *S. paratyphi B* and *Serratia marcescens*<sup>5</sup>.

### f) Respiratory Disorders

Indian gooseberry is beneficial in the treatment of respiratory disorders. It is especially valuable in tuberculosis of the lungs asthma and bronchitis<sup>3</sup>.

### g) Diabetes

Due to its high vitamin C content, is effective in controlling diabetes. Atablespoon of its juice mixed with a cup of bitter gourd juice, taken daily for two months will stimulates the pancreas and enable is to secrete insulin, thus reducing the blood sugar in the diabetes<sup>3</sup>. Decoctions of the leaves and seeds are used in the treatment of diabetes<sup>4</sup>.

#### h) Heart Disorder

Indian gooseberry is considered an effective remedy for heart disease. It tones up the functions of all the organs of the body and builds up health by destroying the heterogeneous or harmful and disease causes elements<sup>4</sup>

## 2. Conclusions

Amla is one of the richest natural sources of vitamin C, its fresh juice containing nearly twenty times as much vitamin C as orange juice. A single tiny Amla is equivalent in vitamin C content to two oranges. It is an ingredient of many Ayurvedic medicines and tonics, as it removes excessive salivation, nausea, vomiting, giddiness, spermatorrhoea, internal body heat and menstrual disorders.

## References

- [1] Roles of *Emblica officinalis* in Medicine - A Review<sup>1,2</sup>K.H. Khan
- [2] ESSENTIALS PERSPECTIVES FOR *EMBLICA OFFICINALIS* Anil Kumar\*, Anup Singh and Jyotsna Dora
- [3] Journal of Pharmacognosy and Phytochemistry,Recent Trends in Potential Traditional Indian Herbs *Emblica officinalis* and Its Medicinal Importance K.P. Sampath Kumar<sup>1\*</sup>, Debjit Bhowmik<sup>2</sup>, Amitsankar Dutta<sup>3</sup>, Akhilesh Pd.Yadav<sup>3</sup>, Shravan Paswan<sup>3</sup>, ShwetaSrivastava<sup>3</sup>, Lokesh Deb<sup>4</sup>
- [4] NUTRITIONAL AND HEALTH CARE BENEFITS OF AMLA, SRIVASUKI K.P.
- [5] A short description on pharmacogenetic properties of *Emblica officinalis*, Shweta Khosla<sup>1</sup>, Sunny Sharma
- [6] Current Trends in the Research of *Emblica officinalis* (Amla): A Pharmacological Perspective, Swetha Dasaraju\*, Krishna Mohan Gottumukkala.
- [7] PERSPECTIVES OF AMLA – A WONDER HERB Maryam Bincy Thomas \*, Satish Kumar Sharma, Lalit Singh
- [8] *Emblica officinalis* Reduces the Initiation of Oxidative Stress by *Salmonella typhimurium* in Mice and Can be Used in Typhoid, Kishwar H. KHAN
- [9] AMLA – THE ROLE OF AYURVEDIC THERAPEUTIC HERB IN CANCER M. KRISHNAVENI AND S. MIRUNALINI
- [10] Amla (*Emblica officinalis* Gaertn), a wonder berry in the treatment and prevention of cancer, Manjeshwar Shrinath Baliga and Jason Jerome Dsouza
- [11] Indian Gooseberry (*Phyllanthus emblica* L.):Phytochemistry, Pharmacology and Thereapeutics, Vadde Ramakrishna<sup>1</sup>, Sriram Gopi<sup>2</sup> and Oruganti H. Setty<sup>2\*</sup>
- [12] *Emblica officinalis* (Amla): A review of potential therapeutic applications, Prasan R. Bhandari, Mohammad Ameeruddin Kamdod