



The Review on *Emblica Officinalis* (Amla)

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ABSTRACT:

Phyllanthus Emblica Linn. Or *Emblica officinalis* Gaertn. commonly known as Indian gooseberry or Amla is one of the most important medicinal plants in Indian traditional systems of medicine (Ayurveda, Unani, and Siddha). It is a well-known fact that all parts of amla are useful in the treatment of various diseases. Among all, the most important part is fruit. Amla fruit is widely used in the Indian system of medicine as a diuretic, laxative, liver tonic, refrigerant, stomachic, restorative, antipyretic, hair tonic, ulcer preventive, and for the common cold, fever; as alone or in combination with other plants. Phytochemical studies on amla disclosed major chemical constituents including tannins, alkaloids, polyphenols, vitamins, and minerals. Gallic acid, ellagic acid, emblicanin A & B, phyllembein, quercetin, and ascorbic acid are found to be biologically effective. Research reports on amla reveal its analgesic, anti-tussive, antiatherogenic, adaptogenic; cardio, gastro, nephro and neuroprotective, chemopreventive, radio, and chemo modulatory and anticancer properties.

Amla is also reported to possess potent free radical scavenging, antioxidant, anti-inflammatory, anti-mutagenic, and immunomodulatory activities, which are efficacious in the prevention and treatment of various diseases like cancer, atherosclerosis, diabetes, liver, and heart diseases. Amla fruit is extensively utilized all around the world as a medicinal plant as an antioxidant, hepatoprotective, nephroprotective, metabolic syndrome, cardioprotective, hair energizer, stomach ulcer protective, and sickness, as by itself or in aggregate with different herbs. The different researches show that it contains a large number of biochemical components, especially alkaloids, phenols, tannins, multivitamin, and inorganic compounds. The organic chemical constituents present in Amla involve ellagic acid, gallic acid, emblicanin A and B, phyllembein, quercetin, and ascorbic acid are decided to be efficient for health. The review articles related to Amla are well known for its palliative, anti-coughing, anti-atherogenic, immune booster, aerobic, intestinal protective, kidney protective, neuroprotective, chemopreventive, radio modulatory, and anticancer homes.

Keywords: Amla, Conventional medicines, Coronary, Antioxidant, Treatment applications.

Introduction:

Abundant medicinal plants are presented in the Indian traditional systems of medicine (like Ayurveda, Unani, and Siddha), mostly used one amongst them is the Indian gooseberry or Amla, also known as *Phyllanthus Emblica* Linn. (Syn. *Emblica Officinalis* Gaertn.) belongs to the family Euphorbiaceae,¹ which is an important medicinal herb in Ayurveda and Unani systems of medicine. It is enormously used as a tonic to restore the lost body's energy and vigor. Amla is a small to medium-sized deciduous tree, found throughout India, Pakistan, Uzbekistan, Sri Lanka, South East Asia, China, and Malaysia. It grows about 8-18m in height with thin light grey bark, leaves are simple, light green, sub-sessile, closely set along the branchlets and look like pinnate leaves; flowers are greenish yellow; fruits are globose, fleshy, pale yellow with six obscure vertical furrows enclosing six trigonous seeds in two seeded three crustaceous cocci.

Mostly each is commonly small or medium in size (8–18 m) and found in Pakistan, India, Sri Lanka, China, and Malaysia, etc. Their leaves are similar to pinnate leaves, which are simple, dull green, and stalk-free; bark is thin and light gray in color; greenish-yellow-colored flowers; fruits are pale yellow in color having 6 trigonal seeds packed in three hard shells cocci. Amla contains large contents of nutrients and the best origin of inorganic contents, amino acids, and ascorbic acid (Vitamin C). Some other important chemical ingredients are alkaloids, tannins, and emblicanin A and B; the ellagic part of *E. officinalis* contains medicinal characteristics, especially fruits are used to cure jaundice, diarrhea, and inflammation.²

Amla is also used in medicine separately or by combining it with other beneficial plants and is used to cure stomach infections, liver infections, hair tonic, and to avoid ulcers. The nature of the current discussion is a try-out to cognize the importance of Amla according to the medical point of view and its nutritional values, routine uses, and biochemical ingredients. It also reviews the research done on Amla and also describes the features of Amla that ensure its importance and uses in curing different diseases for further research in the future. It has a beneficial role in degenerative diseases like cancer, diabetes, liver treatment, ulcer, anemia, and heart trouble¹ and also is an important constituent in hepatoprotective formulas available².

Amla is highly nutritious and is one of the richest sources of vitamin C, amino acids and minerals. It contains several chemical constituents like tannins, alkaloids, and phenols.⁴ among all hydrolyzable tannins, Emblicanin A and B; gallic acid, and ellagic acid are reported to possess biological activity. Almost all parts possess medicinal properties, particularly fruit, which has been used in Ayurveda as a powerful Rasayana and in customary medicine in

the treatment of diarrhea, jaundice, inflammation and several other ailments. Amla fruit is widely used in the Indian system of medicine as alone or in combination with other plants and is used to treat common cold and fever, as a diuretic, laxative, liver tonic, refrigerant, stomachic, restorative, antipyretic, hair tonic; to prevent ulcer and dyspepsia.

CLASSIFICATION

Kingdom: Plantae

Division: Angiospermae

Class: Dicotyledonae

Order: Geraniales

Family: Euphorbiaceae

Genus: Emblica

Species: *Officinalis* Geartn.

Vernacular names English: Emblic myrobalan,

Indian Goose berry

Sanskrit: Amalaki

Hindi: Amla

Kannada: Nelli Kayi

Marathi: Aml

Other uses:

It helps in regulating blood sugar.

It is very powerful anti-inflammatory herb, a wonderful antioxidant and a natural Source of Vitamin C.

Amla helps scavenge free radicals.

Amla is powerful food for the brain and helps lower cholesterol.

Amla also helps maintain the functioning of the liver, increases haemoglobin, red blood cell count. It is useful for Cough, Bronchitis, and Asthma.

Amla cleanses the mouth, strengthens the teeth. Its decoction is used in hyperacidity and with honey as an anthelmintic.

The presence of Amla results in an enhanced cell survival, decreased free radical production and higher antioxidant levels.

There are various classic Ayurvedic preparations, such as Chyawanprash in which Amla is used as a chief ingredient. It help improve intelligence and memory power.

Triphala and Brahmarasayana are other classic medicine in which Amla is being used since time immemorial.

USE OF AMLA:-

Metabolic syndrome

E. officinalis extract obtained by ethyl acetate extraction, contains a large amount of fructose-induced metabolic syndrome. This research elaborates that *E. officinalis* is rich in a fraction of the polyphenols.

Cardioprotective

Besides the other benefits, its major advantage is protection from CVD, atherosclerosis, and other heart diseases. The remedy for atherosclerosis is possible only when the oxidation of injury or low-density lipoprotein (LDL) is minimized. The juice of Amla fruit ensured that it is rich in polyphenol amount. Moreover, the surgical pathology recovery of cardiac muscles guaranteed the preventative activity of *E. officinalis*. All the research and discussion argued that *E. officinalis* shows heart-protective, antioxidant, and free radical scavenging properties.

Diabetes and related complications

Daily routine foodstuffs participate in controlling the diabetes level. Like garlic, onion, and turmeric, Amla (*E. officinalis*) shows also a positive effect in lowering the diabetes level. Approximately 2–3 g of *E. officinalis* powder efficiently helps in improving the high-density lipoprotein cholesterol level and controlling the LDL cholesterol level. Furthermore, Amla fruit is also being used to get remedies for neuropathy development, in diabetic patients.

Immunostimulants

We are familiar with various plants, that are immune stimulants in nature. Similarly, Amla is the best source of ascorbic acid that enhances immunoactivity (i.e. make 2 times more effective) by stimulating immune cells and antibodies. Antimicrobial Approximately 50% and 20% of deaths are caused by infectious diseases in tropical areas and America, respectively. Chemical constituents obtained from medicinal plants is being in used to cure antimicrobial infection for over 100 years [40]. The organic solvent (such as CHCl_3 and CH_3OH) extract of Amla (*E. officinalis*) shows efficient results against a few Gram-positive and Gram-negative bacteria. On the other hand, Vijayalakshmi et al. discussed the antimicrobial nature of aqueous *E. officinalis* fruit pulp extract alongside Gram-positive bacteria and Gram-negative bacteria. However, in the future, *E. officinalis* drugs will serve as low-cost and safe medicines due to their antimicrobial activities.

Anticancer

Like other natural medicinal plants, *E. officinalis* is better for anticancer because of the high concentration of polyphenol constituents in it. Polyphenols involve the mechanisms associated with anticarcinogenic effects, inflammation, and radiation retardant. free radical that causes skin damage. Furthermore, Amla (*E. Officinalis*) is best for anti-aging and used for the production of cosmetics for skin care.

Eye disorders

For remedy of eye disease, *E. officinalis* and its tannins are used which decreased the possibilities of oxidative pressure as there was a reversal of adjustments with appreciation to lipid peroxidation, carbonyl content of protein, and roles of antioxidant enzymes. Amla additionally prevented aggregation and insolubilization of lens proteins resulting from hyperglycemia.

Medicinal and Health benefits of Amla

Amla and Hypertension

Amla is a rich source of various antioxidants. It is a known antioxidant property to scavenge the free radicals produced by the human body during stress. Along with antioxidants, Amla contains a notable amount of potassium. Therefore, due to potassium's ability to regulate blood pressure, it has been used regularly in the diet of patients suffering from blood pressure problems. The major mechanism involved in managing hypertension by Potassium is by dilating blood vessels, which further reduces the chances of blood pressure. In this situation, the drinking of Amla juice could be effective.

Amla in Diabetes

Traditionally, Amla is used as a home remedy to regulate or control diabetes. The main reason behind diabetes is stress conditions. Amla is a good source of vitamin C. It is a powerful antioxidant that will help reverse the free radical generation and the effect of oxidative stress. The consumption of Amla products regularly can prevent the chances of diabetes. In another mechanism, Amla's fibres can help absorb the excess sugar in the body to regular blood sugar levels. So, including Amla in your Diabetes Diet Plan can help in the effective management of diabetes.

Amla and digestion

Amla berries contain enough soluble dietary fibres. The fibre has a role in regulating bowel movements, which could help relieve irritable bowel syndrome. Due to the higher amount of vitamin C in Amla, it also helps absorb a good amount of essential minerals. Therefore it has synergism with different health supplements.

Amla and mental health

Amla berries' antioxidants have a strong free radical quenching ability, which can help avoid brain cells' damage and enhance memory. This could be the reason that Amla is effective in treating patients who have dementia.

Amla and weight loss

The reason for the fat accumulation could be a slow metabolism. Irregular eating habits can lead to fat formation in unwanted places. Amla helps prevent fat formation and helps in flushing out toxins from the body. Generally, eating raw Amla, candies, and Amla powder with lukewarm water is recommended for weight loss.

CONCLUSION:

Research on Indian traditional medicinal plants has gained a new recommence. Although the other systems of medicine are effective they come with a number of undesired effects that often lead to serious complications. Being natural, herbal medicine alleviates all these problems. *Emblica Officinalis* (Amla) has an important position in Ayurveda- an Indian indigenous system of medicine. Amla due to its strong antioxidant and biological properties prevents innumerable health disorders as it contains essential nutrients and the highest amount of vitamin C. The consumption of native therapeutic vegetation decreases growing countries' dependence on drug imports. Thus, each herbal medicine or unfinished natural drug ought to take equal cost-effective pharmaceutical difficulty, which has ended up vital for the latest imitative prescribed drugs. Although the alternative structures of medication are powerful, they arrive by means of some unwanted results that regularly cause critical hurdles. the herbal medicinal drug relieves a lot of the troubles, as Amla has a critical role in incurring different diseases.

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