

Jamun's: Medicinal impact and Benefits (S.cumini)

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ABSTRACT: Jamun or Indian Blackberry, *Mahapahala* in Sanskrit is a significant summer fruit summer season fruits, which is related with lots of medicinal benefits and health benefits. The Jamun is also used for stomach pain, carminative and anti-inflammatory properties and also rich in source of protein, vitamins and antioxidants, flavonoids, manganese, potassium, phosphorus and calcium, leaf also loaded with lots of other essential nutrients, the leaves contain anti-virus properties which helping lower blood sugar level, treat constipation and allergies. Indian Blackberry Vinegar is also good to reduce blood sugar level, kidney problem, cure piles diarrhoea (due to fibre rich) etc. Jamun's are effective against many diseases such as cardiovascular (heart disease), respiratory disease (asthma, cough) and chronic disease (bowel disorder). Jamun's fruits and its leaves are best source to prevent diabetic patients, because it have anti diabetic properties. The seeds and leaves have active ingredients that's called jambosine and jamboline which slow down the rate of sugar deliver into the blood and raise the insulin level. It change starch into energy and decline the symptoms of diabetes such as urination and thirsting. Instead of this Indian blackberry have to medicate so many diseases from ancient era to until now. So, this review give the description of medicinal significance role of Indian Blackberry or Jamun and their use to the medicate a variety of disease.

Keyword: medicate, description, constructive, recorded, *Syzygium cumini*, health benefits, anti-neoplastic, indigenous, curry leaves, hair-fall, Cardioprotective

I. INTRODUCTION

Syzygium cumini are affiliates to Myrtaceae family and known as *Syzygium jambunum* which is found in evergreen tropical and subtropical Region and its indigenous to the Indian Subcontinents. They are also popular Malabar plum, java plum, black plum and Indian blackberry etc. and look on with favour for its fruit, timber and ornamental value. It touch height upto 30 m (98 ft) and can survive more than 100 year, also a fastest grow-

ing plant and also survive in low range of Himalayas upto distance above the sea or ground of 1200-1300 meter. So, in India the Jamun is a seasonal fruit that is available between June and July.

Different parts of that Plant like leaves, seed and bark are announced for its Medicinal Properties. It is very constructive in the medicate of Urinary Problems, skin acne, cure pile, kidney problem, Natural blood purifier, cardiovascular, respiratory disorder, Diabetes mellitus, anti-virals, anti-bacterial, anti-fungal and also for wound healing. In an ancient time, the seed, bark and leaves all are used in Ayurveda and Jamun establish a special remarks in Ramayana and awarded as the "Fruit of Gods" because Lord Rama live 14th years in forests and for their survival eating that berry (jamun) during to their exile. This berry has a tremendous source of vitamin C, Carbohydrates, Iron, Magnesium, Potassium and little Phytochemical. As reported by Namasivayamet al. (2008), the bark of plants basically have Carbohydrates and Tannin which is used to serve dysentery. Chaudhari et al. Seed of jamun have (1990) present oneself that seed of berry (jamun) have anti-inflammatory and antioxidant properties in diabetes. Apart from this jamun has been used to medicate different diseases from ancient era totill now. So, this review gives the description of medicinal significance of Indian Blackberry or Jamun and their use to medicate a variety of diseases.

Medicinal Worth of distinct Parts of Jamun Plant

1. Leaves

Sagrawat et al. (2006) propose that the leaves of *Syzygium cumini* hold different chemicals compound which possess medicinal worth and these chemicals compound are β -sitosterol, betulinic acid, mycaminose, maslinic acid, n-heptadecane, quercetin and flavonol glycosides myricetin 3-O-(4'-acetyl)- α -Lerhamn Pyranoside. All of that chemicals had been broadly utilised in the Pharmaceutical Industry for the use of different diseases. Jamun leaves mixed with curry leaves and apply on hair then it's prevent from hair fall as well as oral infections

The leaves of berry which have aroma almost identical to turpentine, are pink in colour when young and after variation occur it is turned into glossy dark green with yellow midrib and finally, into black when they mature. As reported by Eshwarappa et al. (2014), leaf gall taken out from jamun have different phytochemicals which possess antioxidants and flavonoids properties. These are utilized in the therapy of different kinds of metabolic disease like diabetes mellitus, cancer,

liver, purification of blood (detox) and asthma. They establish that methanol and aqueous withdrawn from *S. Cumini* leaf have phytochemicals such as phenolics and tannin, flavonoids, alkaloids and triterpenoids etc. Kumar et al. (2014) deliberate antimicrobial task of leaves of *S. cumini* from different sectors of North India and they establish that ethyl acetate takes out of *S. Cumini* leaves to be visible maximum antimicrobial.

Table 1:- Medicinal Significance of Chemicals Available in Leaves

| Name of chemicals | Medicinal Significance | Reported by |
|---------------------|--|---------------------|
| Quercetin | Slow down the DMBA-induced DNA damage | De et al. (2010) |
| Oleanolic acid | Hamper tumor promotion Ion in Mouse Skin | Sharma et al.(2010) |
| β -sitosterol | Hampered the TPA-induced Inflammation | Kim et al. (2009) |
| Myricetin | Hamper polycyclic aromatic hydrocarbon-DNA | Lee et al. (1997) |

2. Seeds and Fruit

Raza et al. (2017) describe that the blood Glucose level in rats can be decreased by the use of fruits and seeds taken out from jamun. Their experimentation shows that seed and fruit taken out from jamun decrease the Glucose level in blood and modulate insulin level in hyperglycemic rats. It has been recorded that jamun fruits which take out are reduced serum glucose levels to 5.35% and 12% in standard and hyperglycaemia rats, consequently; although the insulin levels are upgraded to 2.82% and 6.19% appropriately. Jamun seeds are dry and convert into fine powder and have the same medicinal value and it is proved that seed powder is very effective in preventing diabetes mellitus. Ambika Chauhan (2015) describe that in the jamun fruits biochemical calculation and experimentation report showing that it contains 70.5 gm of moisture, 16.2 gm of crude fibre, 128 mg of Iron and 8.2 gm of total protein.

Klinger et al. (2015) describe that the jamun have essential oil and their main constituent is α -pinene which enumerate for its antileishmanial function in opposition to *Leishmania amazonensis*. Ravi et al. (2004) proposed that take out of Ethanol of *S. Cumini* seed core is deductive the raised oxidative stress which inserts in the pathogenesis and damage of diabetic tissue. In this activity he noticed that when increased levels of vitamin-E, lipid peroxides, plasma glucose and when decreased in level of vitamin-C were noticed in diabetic rats, but after the treatment with extract of *S. Cumini* seed core then normal level had recovered.

Prince et al. (1998) all things considered that which aqueous taken out from seed are anti-anaemic in nature and also play a role in increasing haemoglobin in blood, decreasing body weight.

Table 2:- Medicinal Significance of Chemicals Available in seed and fruits

| Name of chemicals | Medicinal Significance | Reported by |
|---------------------|---|--------------------------|
| α -pinene | Gastroprotective and Antiulcerogenic | Pinheiro et al. (2015) |
| Quercetin | Anti-oxidant and Anti-Viral | Maalik et al. (2014) |
| β -sitosterol | Anti-inflammatory, Anti-cancer and Anti-Viral | Kamatou and Alvaro(2010) |

3.Bark

The n-hexane, alcohol and aqueous are withdrawn from different parts of plant of jamun such as Bark, roots, fruits and leaves and use it at different concentration to examine their antifungal capabilities against *Ascochyta rabiei* are the causative agent for blight disease of *Cicer arietinum* had described by J.K et al. (2010) and all of them are demonstrated important antifungal activity. A R Ivan (2006) described that bark in the jamun plant has a pentacyclitriterpenoid betulinic

acid. Yogeshwari et al. (2005) described that β -sitosterol are present in the bark of Jamun plants have identical chemical structure as cholesterol and also it is very useful in decreasing blood cholesterol and also has anti-inflammatory activity.

Pandey et al. (2002) described that the S. Cumini Bark has anti-inflammatory activity histamine, serotonin and prostaglandin. Histamine (1mg/ml), serotonin (5-HT, 1mg/ml) and prostaglandin (PGE2, 0.001 mg/ml) are used as inflammogens.

Table 3:- Medicinal Character of Jamun use as Medicine

| Name of chemicals | Part of Plant | Reported by |
|-------------------|---|--|
| Anti-diabetic | Draw out of jamun seed in different Solvent | Helmstadter et al. and Kumar et al. (2008) |
| Anti-cancerous | Pulp of Jamun | Barh D and Vishanathan (2009) |
| Anti-Bacterial | Pulp of Jamun | Patel and Rao (2010) |
| Cardioprotective | Withdrawn of Methanol from jamun seed | Mastan et al. (2009) |
| Anti-oxidant | Withdrawn from leaf gall | Eshwarappa et al. (2014) |
| Anti-fungal | Bark | J.K et al. (2010) |
| Anti-Microbial | Withdrawn of Ethyl acetate from leaf | Kumar et al. (2104) |

4.Flower

Ramya et al. (2012), experimented that jamun flower also have some acid such as erategolic acid (Maslinic acid), galactoside, dihydromyricetin, flavonoids, quercetin, eugenol triterpenoid B, eugenol triterpenoid A and quercetin-3-D-acetyl oleanolic acid.

Sagrawat et al. (2006) described that the flowers of jamun plants contain few acids such as oleanolic acid, ellagic acid, isoquercetin, kaempferol and myricetin.

II. CONCLUSION

Jamun are naturally plants which are used for health purposes as well as medicine for therapeutics, mainly ulcer, kidney and diabetes. It have anti-neoplastic activity which deals with cancer, that uses basically for cancer treatment. Jamun are very effective and their phytochemical properties also explore their chemical content which is used to treat other types of cancerous or carcinogens. Jamun are easily available in rural areas so we should

advertise about their benefit and also in urban sector jamun based products should be available to each area or population and promote the growth of jamun in village areas, motivating the growersto produce huge amounts of jamun. So, their phytochemical and compound content make it very beneficial for the human being in all manner.

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