INTERNATIONAL JOURNAL IN PHARMACEUTICAL SCIENCES

Journal Homepage: https://www.ijpsjournal.com

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Review Article

A Review On The Role Of Jamun, Syzygium Cumini Skeels In Treatment Of Diabetes

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ARTICLE INFO

Received: 09 Dec 2023
Accepted: 12 Dec 2023
Published: 19 Dec 2023
Keywords:
Jamun, Antidiabetic, Medicinal Plant, Phytochemical, Therapeutic
DOI:
10.5281/zenodo.10405128

ABSTRACT

Jamun (Syzygium cumini Skeels) is naturally indigenous to India has been used as medicine for last It's been a hundred years in the Unani and Ayurveda health systems. As a traditional, Jamun has been used for a very long time. is to be used as a precaution in the treatment of diabetes mellitus, inflammation, ulceration and diarrhoea It has also been shown to be chemopreventive, radioprotective and antineoplastic in preclinical studies. properties. The key points of the paper should be summarised in a research paper conclusion, which will make it easier for readers to understand what is said. Although the conclusions do not normally contain new information which has not been reported in an article, they are often recasting issues or offering a different view of the subject.

INTRODUCTION

Syzygium cumini(L.)Skeels., further popularly appertained to as black Jamun or Java pearl, belongs to the family Myrtaceae, and is a vital indigenous factory with medicinal operations firstly from India and Indonesia; it's distributed in the tropics and sub-tropics around the globe(1-3). The factory is presto- growing and can grow 30 m or further in height and its lifetime is further than 100 times(4). The factory is treated as economically important as all of its corridor, starting from the seeds and leaves to the wood, have great medicinal and provident values(2,5). The factory possesses colorful phytoconstituents and has high antioxidant eventuality,which is veritably important salutary for our bodies It has phytoconstituents that include glycosides, anthocyanins, steroids, phenols, flavonoids and terpenoids (6). Fruits are rich in carbohydrates, vitamins and minerals; the pulp contains important minerals such as manganese, calcium, potassium, iron, zinc and sodium (7,8). Its grandiloquent-topalish color is the result of the anthocyanins present within the factory(9). Other than the fruits, leaves and dinghy also have medicinal parcels(2). They're used in diabetes, ringworm, and diarrhea(1,2). The dinghy is used as a digestive anthelmintic and diuretic(4). In addition, seeds are used in colorful traditional and oriental systems of

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Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

drug similar as in Ayurvedic, Unani, and Chinese drugs asa natural cover for the treatment of hyperglycemia, ulcers, dysentery, asthma, glycosuria, and bronchitis(2,5).

1.1 Morphological Classification Of Java plum

1. Kingdom: Plantae
2. Division :Magnoliophyta
3. Class : Magnoliopsida
4. Order :Myrtales
5. Family: Myrtaceae Fig 1: Java Plum[10]
6. Genus: Syzygium
7. Species: S.Cumini(11)

Fig 1: Java Plum[10]

1.2 Jamun characteristics

Jamun is a large evergreen and dense deciduous tree with grey-brown bark,exfoliation in woody scales. The wood is whitish, deep-grained and durable; offers brown dyes and certain types of Kino gum. The leaves are leathery, oblong, oval or oval, 6-12 centimeters long (very variable, smooth and shiny; several nerves joining at the edge), the tip is broad and less sharp. The the leaves are borne mostly by branches below the leaves, which are often axillary or axillary terminal and 4-6 centimeters long. The flowers are fragrant, greenish-white, in clusters only a few or 10 to 40 and are round or elongated and arranged in dichotomous panicles bugs The calyx is funnel-shaped, about 4 millimeters long and toothed. Petals are equal and all collapse into a small disk. Stamens are numerous and about as long as the calyx.Several varieties that vary in fruit color and size, including some improved breeds was developed for purple to purple or white colored flesh and seedless fruit. The fruits are berries and often distinctly oblong, 1.5– 3.5 centimeters long, dark purple or almost black, juicy, fleshy and edible; it contains one large seed. [12.13] The plant produces small purple plums with a very sweet taste, which become slightly astringent.the edges of the pulp when the fruit is ripe. Ripe fruits give a dark purple color they resemble the fruits of the olive tree both in terms of weight and shape and have an astringent taste. [14]The fruits have a sweet, slightly sour and astringent taste and tend to change color tongue purple.

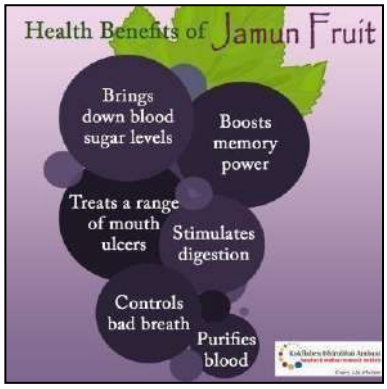

Fig 2 Health Benefits Of Java plum(15)

Parts are used

Leaves, flowers, fruits, seeds. Components of phytochemistry Leaves: Triterpenoids, esterase, galloyl carboxylase, myricetin 3-O-4- acetyl-L-rhamnopyranoside, quercetin, myricetin, myricitin, and tannin are abundant in the leaves.

Leaves

The leaves contain many acylated flavonol glycosides[16], quercetin, myricetin, myricitin, myricetin 3- O4-acetyl-L-rhamnopyranoside [17], triterpenoids, esterase, galloyl carboxylase [18],and tannin.[19]

Fig 3: leaves(20)

Stem bark

The bark of the stem contains a lot of betulinic acid, friedelin, epifriedelanol, β-sitosterol, eugenin and epifriedelanol fatty acid ester, β-sitosterol, quercetin kaempferol, myricetin, gallic acid and ellagic acid[21], bergenins, flavonoids and tannins.[22] The presence of gall and ellagi tannins may be the reason for ste shrinkage.

Fig 4: Stem Bark(23)

Flowers

The flowers contain a lot of kaempferol, quercetin, myricetin, isoquercetin (quercetin-3-glucoside), myricetin-3-L-arabinoside, quercetin-3-D-galactoside, dihydromyrcetin [24]oleanolic acid, acetyloleanolic acid, eugenol triterpenoid A and eugenol triterpenoid B.[24].

Fig 5: Flowers [25]

Fruits

Fruits contain a lot of raffinose, glucose, fructose, citric acid, model acid, gallic acid,anthocyanins[26]; delphinidin-3-gentiobioside, malvidin-3-laminariboside, petunidin-3- gentiobioside[27], cyanidine glycoside, petunidin and malvidin. [28] Fruit acidity can is due to the presence of gallic acid. The color of the fruit can be due to the occasion anthocyanins. [27] Fruits contain 83.70–85.80 g moisture, 0.70– 0.13 g protein, 0.15–0.30 g fat, 0.30-0.90 g crude fiber, 14.00 g carbohydrates, 0.32-0.40 g ash, 8.30- 15.00 mg calcium,35.00 mg magnesium, 15.00-16.20 mg phosphorus, 1.20-1.62 mg iron, 26.20 mg sodium,55.00 mg potassium, 0.23 mg copper, 13.00 mg sulfur, 8.00 mg chlorine, 80 I.U. Vitamin A, 0.01 0.03 mg thiamine, 0.009-0.01 mg riboflavin, 0.200.29 mg niacin, 5.70-18.00 mg ascorbic acid, 7.00 mg choline and 3.00 mcg folic acid per 100 g edible portion. [29] One The Brazilian jamun variety contains malvidin-3-glucoside and petunidin-3glycoside. [30] Jamun shell powder can also be used as a coloring agent in foods and medicinal Fig 6: Fruits antioxidants and anthocyanin pigments obtained from fruit peels were studied strength stability in new and formulations. [31]

Fig 6: Fruits[32]

seeds

galata acido, elaga acido, korilagino, 3, 6-hexahydroxydifenoilglukozo, 1-galoilglukozo, 3-galloilglukozo, kvercetino, β-sitoterol, 4,6-hexahydroxydifenoilglukozo.

Fig 7: Seeds[33]

1.3 Therapeutic use of jamun

The whole jamun plant (seeds, pulp, leaves, flower and bark) is known for its medicinal properties value Jamun includes its use in various

traditional systems of medicine such as Ayurveda, Unani, Siddha and Homeopathic. It is characterized by the history of medicinal use of Jamun Prescribed use of Charkha and Sushruta for treatment of many diseases like diarrhoea, obesity, vaginal bleeding, menstrual disorders, bleeding etc. [34] Recent studies are showed several pharmacological effects such as antibacterial [35-37], antifungal[38],antiviral [39], antioxidant potential [40-41], antiinflammatory [42], hepatoprotective [43-44] , a diabetes drug[45-46], hypolipidemia[47], heart protective[48], antidiarrheal[49], anti-allergic[50], antipyretic[51] antineoplastic[52], chemopreventive. [53-54] Among all these therapeutic propertiesthe antidiabetic effect has been most clearly studied. Antimicrobial Efficacy of Jamun seed extract as an antibacterial agent against Bacillus cereus, B. subtilis, B. megateriun, Steptococcus betahaemolyticus, Staphylococcus aureus, Shigella dysenteriae, Sh. Shiga, Sh. boydii, Sh. flexneriae, Sh. sonnei, Escherichia coli, Salmonella typhi B, Sal. typhi B-56 and Klebsiella species. [55-56] Antioxidant – Antioxidants control free radicals that cause and accelerate many diseases aging Several in vitro studies have shown such potential using alcoholic extracts from the seed Extracts can work in different ways by scavenging free radicals such as superoxide, hydroxyl, lipid peroxide and 2,2-diphenyl-1-picrylhydrazyl (DPPH) and nitric oxide and chelating transition metal catalysts such as iron ions.

Antidiabetic activity

Jamun seeds are widely prescribed in many medicinal systems diabetes Many have also confirmed the anti-diabetic effect of jamun seeds pharmacological studies. Studies by Helmstadter and Kumar et al Significant reduction of blood glucose level during treatment in animals with induced diabetes Jam seed. [57-58] The effectiveness of extracts with different solvents was studied different researchers from different animal models.

Medicinal Uses

1. Consuming jamun fruit helps people with diabetes. It is a miracle treatment for hypoglycemia.
2. Because it contains a lot of iron and can ensure.This fruit functions naturally as a blood cleaner, ensuring a proper flow of oxygenated blood throughout the body.
3. It contains a variety of chemical elements, including as oxalic acid and gallic acid, which help it fight bacterial and fungus-related diseases, such as malaria.[59]
4. It is also used to treat other lung conditions like bronchitis and asthma.
5. This fruit is used to treat digestive problems like gas, abdominal discomfort, and dysentery.[60]
6. This plant's aphrodisiac qualities are used as a tonic to treat anaemia and improve weak sexual function.
7. Jamun has significant benefits for women who have leucorrhoea.
8. Jamun is used to alleviate congestion, and when combined with other herbs, it is especially beneficial for disorders involving the pancreas.[61]
9. It also helps with neurological issues like fatigue, depression, and other issues.
10. Mouth ulcers, throat soreness, and teeth and gums are strengthened by the leaf ash.
11. It aggravates the vata dosha while calming the kappa and pitta doshas[62]

CONCLUSION

The Java plum, or jamblang seeds (Syzygium cumini), has anti-inflammatory, anti-cancer, and anti- diabetic properties that may strengthen the immune system. One of the recognized herbal medicines in the Unani medical system (USM) is jamun (S. cumini). Its many components, including the leaves, bark, fruits, and seeds

(kernel), have therapeutic properties. It is frequently used as an antibiotic, astringent, digestive, and antidiarrheal medication. The main features of this paper should be summarised and communicated to the reader in a research paper conclusion. Although conclusions do not normally contain any new information that was not previously reported

ACKNOWLEDGEMENTS

I am very happy for the complition of this project. I would like to express my special thanks of gratitude to my guide Miss.Rekha Gaukonde Who gave me the golden opportunity to do this wonderfull project and have valuable guidelines and constant support with all necessary help in my work. I am also thankfull to all my teachers and collage staff who helped me to complete this project. Secondly, I would also like to thank my parents who helped alot by encouraging me to finish this project in a given time. And the lastly, thanks to all my friends and those who directly or indirectly helped me during this project

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HOW TO CITE: Chaitanya Bomble, Rekha Goukonde, Gajanan Sanapr, A Review On The Role Of Jamun, Syzygium Cumini Skeels In Treatment Of Diabetes, Int. J. in Pharm. Sci., 2023, Vol 1, Issue 12, 496-503. https://doi.org/10.5281/zenodo.10405128