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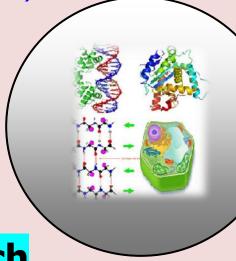
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**RESEARCH PAPER** 

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# Awesome Medicinal Benefits of Jasmine Plant

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## **ABSTRACT**

For medicinal purpose various parts of jasmine plant such as leaves and flowers are used. The plant parts exhibit astringent/constricts tissues, acrid, thermogenic/ heat generating, aphrodisiac, antiseptic, pain relieving, purifying, increase flow of blood in pelvic region, emollient, urine stimulating, ant-parasitic, deobstruant, teeth-cleaning, pus-discharging and tonic properties. Leaves are used in treatment of swollen spongy gums, ulcers, and loose teeth, tooth-ache, skin diseases, pain in ear, pus in ear, ulcer, painful periods, and wound. Flowers are used in eye diseases, ulcers, skin diseases, itching, diseases of teeth etc. Jasmine oil has anti-depressant, anti-inflammatory, antiseptic, aphrodisiac, and sedative properties and used in treatment of Depression, nervous exhaustion, stress related conditions and in child birth. It is used during labor to strengthen the contraction. The leaves of this plant contain a chemical called Jasmininie. The oil contains benzyl acetate, methyl ethynylate and iliquol. It cures kapha and pitta kind of disorders. The oil is anti-vata and aphrodisiac which generates pleasant feelings.

Keywords: Jasmininie, Benzyl acetate, Iliquol, Antidepressant, Aphrodisiac, Antiseptic, Emmenagogue and Antioxidative.

## INTRODUCTION

Jasmine is botanically known as Jasminum officinale or Jasminine and belongs to the olive family of Oleaceae. This shrub comprises of approximately two hundred species that are originally from Oceania, Eurasia and Australasia. Some species include; Spanish jasmine (Jasminumg randiflorum), Jasminumglandulosum Wall. (J. dichotomum), Jasminumofficinale (sweet jasmine), Jasminumdichotomum (Gold Coast Jasmine), Jasminum arborescence Roxb.(nava-mallikaa or

nagamalli or tree jasmine), Jasminumsambac Linn. (motia or lily jasmine), Brazilian Jasmine, Jasminum (Joohi or jui), Jasminumgrandiflorum (L.) (Chameli), Jasminummultiflorum Roth. (Safedchameli), JasminumheterophyllumRoxb., Jasminumfluminense, JasminumarborescensRoxb. (Tree Jasmine), Jasminumauriculatum (Juyi, needle flower jasmine, Juhi), Jasminumangustifolium Linn, Jasminummesnyi Hance (Japanese Jasmine, Primrose Jasmine or Jasminumprimulinum Hemsley) and Jasminumpolyanthum (White Jasmine).. Jasmine is grown all over India in houses, gardens, parks, flower pots, temples as an ornamental plant. It can be deciduous or evergreen plant depending upon its type and variety. This very flower possess 5 petals at least and 12-15 as maximum. This is a creeper plant. The branches are striped and leaves are upward facing and uneven. The plant bears clove like a bud which gradually develops into the flowers. The white cloves like flowers are on a single small stem or on stems longer than the end of leaves. Flowers are pentaculate; in some branches the flowers are larger than leaves and are wide and fragrant. Mostly, the plant bears flowers in rainy season.

jjasmine is analgesic, antidepressant, antiseptic, expectorant, aphrodisiac, sedative, stomachic, diuretic, depurative, astringent, stimulating, anti-oxidizing, anthelmintic and anti-inflammatory in nature. Furthermore, there are other numerous advantages this amazing plant offers to humanity. These benefits have been attributed to its phytochemical, medicinal and pharmacological properties

#### JASMINUM GRANDIFLORUM CHEMICAL CONSTITUENTS

The leaf of the plant contains ascorbic acid, anthranilic acid and its glucoside, indoleoxygenase, alkaloid jasminine and salicylic acid. The flowers contain pyridine and nicotinate derivatives. The oil extracted from the plant yield benzyl acetate, benzyl benzoate, phytol, methyl jasmonate, linalool, geranyl linalool and isophytol.

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'Smell the scent of Jasmine and forget your troubles' is the meaning of the Arabic phrase 'Shil il ham'.

Gifting someone with Jasmine flowers or its essential oil is the direct way to wish happiness, delight, solace, hope and good spirit.

Called as Jati in Ayurveda, Jasmine is recommended in Ayurveda for treating ulcer, dysmennorhea, migraine, wounds, labor pain, skin infections, odontalgia, depression, flatulence, insomnia and reproductive problems.

#### **SPLENDID BENEFITS OF JASMINE**

Borar et al., (2011) report that methanolic leaf extract of jasmine has an antioxidizing ability. As a result, it is suitable for inhibiting oxidation. It also helps to remove potentially damaging oxidising agents in a living organism. Furthermore, Dubey et al., (2016) assessed the antioxidant activity and phytochemical properties of the aqueous extract of Jasminum officinale leaves (Figure 1).

This was evaluated in vitro using free radical scavenging assays for DPPH, NO, superoxide and ABTS radicals in addition to Reducing Power assessment. They also assessed the total phenolic, flavonoid and flavonol contents of the extract using standard procedures. The phytochemical analysis of the extract showed the presence of glycosides, tannins, steroids, flavonoids, coumarins, alkaloids, terpenoids and saponins. Their study supports the use of jasmine in traditional medicines due to its significant antioxidant potential. The phenolic compounds in jasmine act as antioxidants that scavenge for free radicals associated with oxidative damage (Shi et al., 2006). Researchers reveal that ethanolic and aqueous extracts of jasminuman gustifolium Linn. plant exhibit antitumor potentials. Shekhar and Prasad (2015) report that Jasminum angustifolium Linn plant can be used for suppressing tumour syndrome.

Costa et al., (2012) report that jasmine is a rich source of phytol, which exhibits anticonvulsant activity. This is done by modulating the neurotransmitter systems in piloacarpine-induced seizures. Jasmine sambac roots can be boiled with water and the infusion taken for treating diabetes mellitus and regulating the blood sugar level (Sunilson et al., 2010). Jasmine flowers act as a lactifuge and as such useful for reducing milk secretion during life-threatening conditions. Jasmine flowers can be macerated and applied on the breast for a couple of days until secretion stops. Sulaiman et al., (2012) report that the flowers, roots and leaves of jasmine plant can be used for preparing herbal medicines for treating and preventing constipation and flatulence.





Figure 1. Jasmine Habit and a flowering twig.

### **HOME REMEDIES**

The paste of the root of jasmine plant is applied as face pack to improve the complexion. The fresh, tender leaf of the plant is chewed to relieve pain due to dental caries, mouth ulcers and in weak gums. The decoction of the leaf is used for gargling in cases of gingivitis and mouth ulcers. The paste of the root of jasmine plant is applied over forehead to relieve headache. The oil prepared from the root is applied over the affected area in sciatica, facial paralysis and general debility. The oil prepared from the root and flowers of the plant is applied over the scalp in cases of dizziness, vertigo and headache. Few drops of oil prepared using the leaf of jasmine plant is poured inside the ear to relieve earache and pus discharge from the ears. The paste of the leaf, root and flower is applied over the affected area of skin diseases like scabies and itching. The oil prepared using the leaf of jasmine plant is applied over the area affected with open wound to heal it. The fresh juice of the flowers is dropped into the eyes to treat conjunctivitis and other eye disorders. The paste of the root of the plant is applied over the bladder area to relieve difficulty in micturition and dysmenorrhea. The paste prepared from the root of the plant is applied over the penile region in cases of erectile dysfunction.

The cold infusion prepared from the flowers of jasmine is given in a dose of 40-50 ml to treat fever. The perfume of the flowers obtained through distillation method is commercially used. Jasmine can be used as an emmenagogue for stimulating and increasing menstrual flow. Jasmine sambac Linn. is effective against viruses and as such the leaves can be used for treating cough, cold and fever as reported by Sabharwal et al., (2013). Sabharwal et al., (2013) agree that the juices from Jasminum sambac Linn. leaves can be used for treating gallstones. Jasmine sambac leaves can also be soaked in cold water and consumed for treating gallstones (Sunilson et al., 2010). Jasmine flower is antidepressant and relaxing in nature thus can be used for alleviating depression. Jasmine plant is diuretic in nature and as such can be used for preparing herbal medicines for increasing the passage of urine. The leaves can be decocted and used for treating ulcerative stomatitis. Jasmine can be used for preparing hair creams and hair ornaments. Jasmine flowers can be used for producing jasmine tea.

Jasmine roots can be decocted and used for treating skin diseases such as scabies, ringworm, leprosy and pimples.

Jain et al., (2011) report that jasminum species can be used for treating dysmenorrhoea and amenorrhoea. Dysmenorrhoea is known as painful menstruation involving abdominal cramps while amenorrhoea is a health condition marked by an abnormal absence of menstruation. Jasmine plant can be decocted and used for tackling gastrointestinal diseases such as stomach ache, dysentery and diarrhea Studies reveal that jasmine has antilithiatic properties and as such can be used for preventing the formation of kidney stones. It also offers relief from the symptoms of kidney stones. Due to its analgesic properties, jasmine leaves can be used for preparing herbal medicines for treating headache.

Jasmine flowers can be soaked overnight in water and used as eyewash. The dried flowers can also be decocted and used as eyewash during swelling, inflammation and reddening of the eye. Jasmine flowers can be soaked in alcohol extract or oil and then used for treating rheumatism. The leaves can be decocted and used for treating and healing wounds. Jasmine flowers and leaves can be squeezed and applied as a poultice on wounds, cuts and sprains to seize bleeding and facilitate healing.

Otorrhea or ear pain or ear drainage is a health condition marked by inflammation of the external or middle ear or both. Jasmine oil can be dropped into the affected ear for tackling otorrhea. Jasmine is an aphrodisiac and as such, both the flowers and leaves can be applied as a poultice on the pubic areas and loins for stimulating sexual desires.

Jasmine is a rich constituent of tannins, which are considered anti-cancerous. As a result, it is deemed useful for treating inflamed or ulcerated tissues associated with cancer. It also helps to reduce peritoneal cancer cell counts.

#### **CONCLUSION**

Jasmine is analgesic, antidepressant, antiseptic, expectorant, aphrodisiac, sedative, stomachic, diuretic, depurative, astringent, stimulating, anti-oxidizing, anthelmintic and anti-inflammatory in nature. Furthermore, there are other numerous advantages this amazing plant offers to humanity. These benefits have been attributed to its phytochemical, medicinal and pharmacological properties. Leaves are used in treatment of swollen spongy gums, ulcers, and loose teeth, tooth-ache, skin diseases, pain in ear, pus in ear, ulcer, painful periods, and wound. Flowers are used in eye diseases, ulcers, skin diseases, itching, diseases of teeth etc. Jasmine oil has anti-depressant, anti-inflammatory, antiseptic, aphrodisiac, and sedative properties and used in treatment of depression, nervous exhaustion, stress related conditions and in child birth. It is used during labor to strengthen the contraction.

#### **REFERENCES**

- Chaturvedi A. P., Kumar M. and Tripathi Y. B. (2013) Efficacy of Jasminum grandiflorum L. leaf extract on dermal wound healing in rats, International Wound Journal; 1(4): pp. 11-15.
- Bahuguna, Y., Rawat, M. S. M. R., Juyal, V. and Gupta, V. (2008), Antilithiatic effect of flowers of JasminumAuriculatumVahl, International Journal of Green Pharmacy, pp. 155-157 DOI: 10.4103/0973-8258.54910
- **Borar S., Punia P., Kalia A. N. (2011),** Antioxidant potential of n-butanol fraction from extract of JasminummesnyiHance leaves," Indian Journal of Experimental Biology, 49: pp. 39-42.
- Costa J. P., Ferreira P. B., De Sousa D. P., Jordan J. and Freitas, R. M. (2012), Anticonvulsant effect of phytol in a pilocarpine model in mice. NeurosciLett; 523: pp. 115-117.
- **Dubey, P., Tiwari, A., Gupta, S. k. and Watal, G. (2016),** Phytochemical and biochemical studies of jasminumofficinale leaves, International Journal os Pharmaceutical Sciences, vol. 7, issue 6, pp. 2632-2638.
- Jain, A., Sharma, R., Kumar, A. and Sharma, S. (2011), Jasminum species: An overview, International Journal of Institutional Pharmacy and Life Sciences 1(1): pp. 251-259.
- Jia Q., Su W. W., Peng W., Li P., Wang Y. G., (2008), Anti-diarrhoea and analgesic activities of the methanol extract and its fractions of Jasminum amplexicaule Buch.-Ham. (Oleaceae)," Journal of Ethnopharmacology, 119: pp. 299–303.
- Mittal A, Sardana S, Pandey A. (2011), Ethnobotanical, phytochemical and pharmacological profile of JasminumsambacAit. Journal Pharma. Biomedical Science, 11(05): pp. 1-4.
- **Sabharwal, S., Sudan, S. and Ranjan, V. (2013),** Jasminumsambac Linn (Motia): A review, International Journal of Pharmaceutical Research and Bio-Science, vol. 2(5), pp. 108-124.
- **Shekhar, S. and Prasad, M. P. (2015),** Studies on Antioxidant Properties of Jasminum species by FRAP Assay, International Journal of Pure & Applied Bioscience, 3(1): pp. 52-56.
- Shi J, Yu J, Pohorly J, Young C, Bryan M, Wu Y. (2006), Optimization of the extraction of polyphenols from grapes seed meal by aqueous ethanol solution, Food Agriculture Environment, 1: pp. 42-46.
- Sulaiman, C. T. Soudha, V. Deepak, M. and Indira Balachandran (2012), Comparative Phytochemical Studies and Evaluation of Radical Scavenging Activity in Selected Jasminum Species. Int J PharmacogPhytochem Res, 4(4): pp. 199-203.
- Sunilson, A. J., Samuel, J., Kalusalingam, A., Chellappan, D. K., Gopinath, R., Radhamani, S., Husain, H. A., Muruganandham, V. and Promwichit, P. (2010), Ethnomedical survey of plants used by the Orang Asli in KampungBawang, perak, west Malaysis, Journal of Ethnobiol. Ethnomed. 6(5): pp. 2-5.
- Yogendr B, Vijay J, Mohan Singh Maniyari R. and Sunil J. (2009), Diuretic activity of flowers of Jasminum auriculatum Vahl. Journal of Pharmacy Research; 2: pp. 215-216.
- **Vaghasiya Y., Dave R. and Chanda S. (2011),** Phytochemical analysis of some medicinal plants from western region of India. Res. Journal of Medicinal Plants. 5(5): pp. 567-575.
- **Zhao G, Yin Z, Dong J. (2009)** Antiviral efficacy against hepatitis B virus replication of oleuropein isolated from Jasminumofficinale L. var. grandiflorum. Journal of Ethnopharmacol, 125: pp. 265-267

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