

**MEDICINAL PROPERTIES OF HIBICUS PLANT****D.K. Awasthi<sup>1</sup>****Archana Dixit<sup>2</sup>****<sup>1</sup>Department of Chemistry Sri JNMPG College Lucknow U.P. India****<sup>2</sup>Department of Chemistry Dayanand Girls PG College Kanpur U.P. India****ABSTRACT:**

One of the prettiest of flowers in the world is the hibiscus, and there are over 200 varieties of these beautiful flowers which come in many colours and shapes. They also have medicinal uses. The flowers and leaves can easily be made into teas and liquid extracts to help treat various conditions. There are a plethora of hibiscus flower benefits that are truly magical and helpful for us. Hibiscus can help with weight loss and cancer and also help in relieving conditions that include: upset stomach high blood pressure bacterial infections ,fever. Hibiscus flowers come in many colours. The blossoms can be red, yellow, white, or peach-coloured and can be as big as 6 inches wide. The most popular variety is **Hibiscus sabdariffa**. The red flowers of this variety are usually cultivated for medical purposes and are available as dietary supplements, hibiscus tea is popular worldwide due to its immense uses and benefits.

**Keywords:**

Hibiscus, Extract, Bacterial, Cancer Blossoms, Sabdariffa

**INTRODUCTION**

Hibiscus is a flowering plant that belongs to the genus *Mallow* in the *Malvaceae* family. In general, hibiscus is not a name for just one plant, but a collection of several hundred species, which is why the botanical name of all the plants in it begins with the name Hibiscus



Native to the tropical, subtropical, and temperate regions of the world, this species is famous for its exotic, large, and colorful flowers.

These plants are most commonly called Hibiscus and rarely called *Rose Mallow*. It is also known as Tropical Hibiscus, Rose of Sharon, and Hardy Hibiscus. All perennial herbaceous plants of this genus grow as annual plants, and this species includes short shrubs, wood shrubs, small trees, and trees.

Plants such as *Hibiscus rosa-sinensis* and *Hibiscus syriacus* are often widely cultivated as ornamental plants.

One of the prettiest of flowers in the world is the hibiscus, and there are over 200 varieties of these beautiful flowers which come in many colours and shapes. The blossoms can be red, yellow, white, or peach-coloured and can be as big as 6 inches wide. The most popular variety is **Hibiscus sabdariffa**. The red flowers of this variety are usually cultivated for medical purposes and are available as dietary supplements, hibiscus tea is popular worldwide due to its immense uses and benefits. The colours range from red, yellow, maroon, white to pink and mauve. The traditional red coloured flowers are a favourite for use in worship. It is used as an offering to Goddess Kali, and many Durga and Kali temples always have hibiscus flowers growing in profusion.

The most popular of the varieties is *Hibiscus rosa-sinensis*. It is also known as China rose, gudhal in Hindi and bunga raya in Malay. In fact, *Hibiscus rosa-sinensis* is the national flower of Malaysia.

An old wives tale, popular in south India, is to use hibiscus flowers for the hair. The flowers are heated or boiled in coconut oil and then left in the oil. The oil is said to blacken hair and prevent it from greying. The leaves of hibiscus trees are also used as a shampoo as it leaves the hair soft and shiny. Ayurveda recognises the hibiscus flower as an important source for hair growth. The leaves, roots and flowers have various medicinal properties.

#### Medicinal Properties:

The overall antidiabetic activity of the flowers was comparable with the standard anti-diabetic drug metformin. The extract of the petals in water can help treat skin cancer. The researchers found that the flower extract contains compounds that inhibit melanoma cell growth. The effect was visible even at concentrations that did not affect the growth of non cancerous cell.

Dried hibiscus flowers are a common source for dyes. Simmering the flower lightly gives off a light purplish colour. Boiling it darkens the flower and turns the liquid black. Dried flowers become deep purple and the dye is also of the same colour. It is said to be used for hair colouring. It is also used as an eco-friendly dyeing option for fibre,

Yarn and fabric.

Hibiscus tea, sometimes called "sour tea", is a herbal beverage known for its tart taste and beautiful pink or magenta colour.

The hibiscus flower petals have been used as a natural source of food dye for centuries, which gives this tea its spectacular colour of rose to bright red. It has also been used to make cotton and flour colouring and be used as a folk medicine as an antiseptic, diuretic, and aid digestion.

Egyptians used hibiscus tea to cure heart and nerve diseases, reduce body temperature, and as a diuretic to increase urine production. This particular tea is widely rich in antioxidants as well. This beneficial function of the hibiscus flower is surely a boon for mankind.

In Africa, hibiscus tea was used to cure constipation, cancer, liver disease, and cold symptoms. Pulp made from the leaves was also applied to the skin to heal wounds. In Iran, drinking sour tea is still a standard treatment for high blood pressure. In recent years, the hibiscus plant has received increased attention for its potential to lower blood pressure. Humans have used the leaves of this tropical flower for centuries to treat a host of health problems. Herbalists currently use honey and extracts from this flower to treat diabetes. Studies show that hibiscus tea or extract can dramatically improve kidney function, inhibit tumour growth, and fight bacteria. The compounds in hibiscus suggest it could be a powerful addition to any natural medicine cabinet. Hibiscus is related to the okra plant, and its pink and red flowers contain anthocyanins, which some research suggests may contribute to cancer treatment. The hibiscus flower tea has long been consumed to lower blood pressure and help with digestion. These benefits are likely linked to the role hibiscus plays in reducing oxidative stress on the body. The flowers have been used as a natural dysentery remedy. In countries like India where a major number of people are suffering from the problem of blood pressure, These uses of hibiscus flower tea is indeed a helping hand. Another recent study found that hibiscus extract might affect metabolism, preventing obesity and fat build-up in the liver. The tropical plant has even been used successfully to treat head lice as part of a herbal extract mixture. Hibiscus tea and extract can be bought from health food stores as dietary supplements. There is no recommended dose because this depends on the product you are buying and why you're using it.

The usual quantity of calyx in one serving of tea is 1.5 grams, but studies have used as much as 10 grams of the dried calyx and extracts containing as much as 250 milligrams of anthocyanins. Hair strengthening and nourishment is indeed one of the most crucial pink hibiscus flower benefits that are needed in today's stressful

time. They are really effective if you are suffering from problems like hair fall and hair thinning. However, the leaves of these particular plants serve greatly in the treatment of hair loss. When used as a tea, hibiscus is considered safe generally. But more research is required to ascertain a safe dosage for pregnant or breastfeeding women, children, and people with liver or kidney disease. The Hibiscus tea is a tropical mix of organic hibiscus flowers and lemon peel. It comes in a convenient portion of teabags. Drink this delicious cup of nearly fat-free herbal tea to stay calm and focused throughout the day without consuming caffeine. Each cup contains eight calories and 0 sugar with a minimal amount of caffeine.

**Conclusion:**

Hibiscus is a flowering plant that belongs to the genus *Mallow* in the *Malvaceae* family

Hibiscus remains a famous herbal remedy in countries globally. As research continues, it may become more broadly accepted as an effective medical treatment. However, apart from these great health benefits, hibiscus flowers used as medicine and home remedy for skin problems work really wonderfully. It is also known as an anti-ageing plant as it helps in enhancing skin elasticity. So, try the hibiscus remedies and see the positive changes in your health.

Hibiscus is a flowering plant that belongs to the genus *Mallow* in the *Malvaceae* family. In general, hibiscus is not a name for just one plant, but a collection of several hundred species, which is why the botanical name of all the plants in it begins with the name Hibiscus.

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The generic name Hibiscus is derived from the Greek name ἰβίσκος (*ibískos*), which is the name given to the perennial species *Althaea officinalis* by the Greek botanist *Pedanius Dioscorides*.

Hibiscus Tea is highly preferred by people all over the world for its medicinal properties. This beverage is red in color and has a sour taste and is high in Vitamin C.

The perennial plant of Hibiscus rosa-sinensis is thriving in some parts of tropical Asia, and these medicinal plants, especially known as “*Sembaruthi*” in all homes of India, are grown for decorative purposes as well as for medicinal purposes. Hibiscus rosa-sinensis was named by the Swedish botanist *Carl Linnaeus* and published in 1753 in his book “*Species Plantarum*”.

These tropical hibiscus plants also have common names such as China Rose, Rose Mallow, Chinese Hibiscus, Shoebblackplant, Hawaiian Hibiscus. Its flowers are not directly related to roses, although the Latin word *rosa-sinensis* means “*Rose of China*”.

These plants can grow as a shrub, evergreen shrub, or small tree, about 8–16 ft tall and 5–10 ft wide, producing glossy leaves. The flowers of Hibiscus are large, 10 cm in diameter, 4-18 cm wide, 5-petaled, trumpet-shaped. They come in many colors such as red, white, pink, peach, orange, purple, and yellow.

The anthers are orange-tipped red in color on these transparent flowers. The plants in the early days produced only single and a few colors of flowers, and are now giving double flowers in different colors due to *hybridization*. Very differently, the colors of the flowers that bloom on *H. tiliaceus* and *H. mutabilis* plants vary according to age.

At the base of each hibiscus flower, bud is a green *calyx*, the sharp ends are called *sepals*. When the buds of the hibiscus plant begin to expand their petals appear in many colors. All the female parts of the flower, including the ovary, are located in the main structure called the *pistil* (long tube-like structure).

Unlike other flowers the male and female flowers are not separate, the hibiscus rosa-sinensis plant flowers have both male and female parts. The 5 hairy red spots on the surface of the flower are the stigma of the flower, the pollen collects in the *stigma* area on the top of the pistil, the “*style*” is situated in the middle.

The ovary of the flower is at its base, while the male part of the flower has stem-like fibers, producing pollen, where each individual strand produces pollen.

The male organ called stamen produces various stem-like filaments, and each filament ends with anthers that produce pollen. These anthers combine with the filament to form stamen, the male part of the flower.

Overall, the flowers of Hibiscus rosa-sinensis have a single axis, dicotyledon, 5 lobes, axillary placenta, 5 sepals, superior ovary, 5 carbs, regular symmetry. The plant has erect, branched, rounded aerial stems and

taproot roots. The leaves are alternate phyllotaxy with strong petioles, and the concentrated leaves are ovate and pointed.

### **Health Benefits of Shoebblackplant**

The leaves, stems, and flowers of the hibiscus rosa-sinensis plant are often used to treat a variety of ailments. In particular, various research results have demonstrated that tea made by dried hibiscus flowers offers numerous health benefits. Here you can see how this plant produces exotic flowers, promotes physical health and its various medicinal benefits.

### **Possesses Antifertility Properties**

Today, more than 100 million women worldwide utilized *Hormonal Contraceptives*, which is the artificial birth control method.

Although it has been proven that this artificial method of preventing pregnancy can cause various side effects for most people, this method is the most sought after.

However, studies have shown that hibiscus rosa-sinensis has anti-fertility properties, making it effective as a natural contraceptive with no side effects when prescribed properly.

The juice extracted from the flowers and stems of the hibiscus plant is used in various traditional medicine around the world as a natural **abortion and contraceptive**.

Studies were performed on mice to test the anti-fertility properties of the hibiscus plant, and in this study, Hibiscus plant extract showed excellent improvement in preventing fertilization in mice.

It is noteworthy that ancient **Ayurvedic** and **Unani** references contained extensive texts on the contraceptive and abortion properties of hibiscus flowers. These herbal plants contain plant-based compounds called phytoestrogens which are responsible for various potential functions of the body.

In a randomized study, some men were given the juice of hibiscus flowers for 45 consecutive days, eventually, it proved to have an *antispermatogenic* effect on them.

### **Promotes Cardiovascular Health**

High blood pressure is one of the most important causes of heart disease and if the blood pressure is kept under control it will not cause any damage to the heart. But when the blood pressure rises, and when the antioxidant pressure in the blood rises, they can greatly affect the heart and cause heart attacks and chest pains.

Hibiscus rosa-sinensis is very effective in lowering blood pressure and regulating blood flow. For people with heart problems and high blood pressure, the daily use of hibiscus extract or its dried flowers can make a difference.

In addition, the intake of stem extract prevents the accumulation of fat in the blood vessels and reduces the amount of cholesterol in the blood.

Due to this process, the blood flow is better improved and therefore the risks of heart attack are effectively reduced. Stress is another factor that can interfere with the normal functioning of the body and heart, in this case, Hibiscus can help to reduce stress.

### **Has the Potential to Fight Cancer**

Antioxidants are chemicals that prevent the damage caused by free radicals and control their effects, which are usually available to the body through the natural food we consume on a daily basis.

The hibiscus plant is high in **antioxidants** that help balance the free radicals and protect the immune system. It also prevents damage to other cells in the body by free radicals.

Often, high levels of antioxidants are involved in the beneficial process and effectively inhibit the growth of cancer cells and tumor growths.

Hibiscus extract has both *anti-cancer* and *anti-tumor* properties. Studies have shown that hibiscus juice helps greatly in preventing and suppressing cancerous and life-threatening tumors.

### **Acts as a Diuretic**

A natural substance that increases the production of urine is called a diuretic, and research shows that these types of natural compounds are found in significant amounts in the hibiscus plant.

Diuretics **stimulate urine production** and increase the rate of urination, thereby flushing out harmful toxins and waste in the body. Hibiscus rosa-sinensis flowers or leaf powder containing mild diuretic can easily cleanse your body naturally.

The diuretic property of hibiscus flowers is useful in relieving various conditions such as kidney disease, heart disease, high blood pressure, liver cirrhosis. In addition, these plants carry out processes that reduce the level of *uric acid* in the blood.

Kidney stones are caused by the accumulation of uric acid in the kidneys, and studies found that hibiscus extract inhibits the growth of kidney stones by effectively reducing the level of uric acid.

#### **Ameliorates Liver Health**

Hibiscus rosa-sinensis plants are high in antioxidants that play an important role in the healthy functioning of the liver. Hibiscus is used traditionally as an excellent medicine to reduce liver inflammation, protect the liver, and enhance liver health.

Hibiscus root extract was given to people with *Hepatic Steatosis* (accumulation of triacylglycerols & cholesterol in the liver). At the end of this study, the persistence and development of cholesterol-dependent liver steatosis were found to be significantly lower.

The common plant pigment *Anthocyanidins* is abundant in the petals of hibiscus flowers, providing the protective effects needed by the liver.

#### **Controls Blood Sugar Level**

Various parts of the hibiscus plant have the ability to effectively lower lipid and blood sugar levels. In particular, the flowers of this plant are famous for treating diabetes.

Diabetics have been shown to have potent results in effectively lowering their blood sugar levels by drinking tea made from hibiscus flowers daily.

In a study published in the *Indian Journal of Clinical Biochemistry*, induced diabetic rats were studied. Of these, rats were regularly medicated with an extract of hibiscus flowers, which concluded that the rats' blood sugar levels were significantly lower.

Besides, another animal experiment proved that the extract obtained from the leaves of the Hibiscus plant has high *antidiabetic* properties. A study published in the *Journal of Ethnopharmacology* found that ethanol is present in the extract of hibiscus flowers.

Test-tube studies have shown that ethanol-containing extracts lower blood sugar levels when internally ingested. Researchers report that these properties of hibiscus juice, which lowers sugar levels, have similar properties to the prescribed *glibenclamide* drugs for diabetics.

#### **Relieves All Hair Problems**

The leaves of the hibiscus plant treat various types of hair and scalp problems such as dandruff, itching, hair loss, dull hair, dry hair, and scalp patches. The paste of the leaves moisturizes, brightens, nourishes, strengthens the hair, and controls hair loss.

Also, the extract of the leaves gives a darker color to the hair. The tonic made from the petals of these flowers acts as a natural dye and prevents graying of the hair.

Research has shown that the **petroleum ether extract** of the leaves is more powerful than the extract of hibiscus plant flowers, and is more active in promoting hair growth.

Various traditional medicines of the world including Ayurveda highly recommend Hibiscus plant leaves to treat hair and scalp problems. However, both the flower and the leaves of this plant promote strong hair growth.

The tonic of hibiscus flowers contains hyaluronic acid and linolenic acid which can improve the strength of hair and stimulate its growth. Applying hibiscus oil on the scalp stimulates strong hair growth.

#### **Supports Skin Enrichment**

The extract from the flower of the hibiscus plant has been used extensively since ancient times to treat skin problems. Hibiscus extract is still used today as an important ingredient in various skincare products.

Hibiscus extract, which is a powerful antioxidant, is a rich source of **vitamin C**. Hibiscus flowers are a great supplement in the process of preventing acne caused by bacteria and excessive secretion of sebum.

High in anti-inflammatory properties, these flowers reduce the appearance of wrinkles and blackheads on the skin. Besides, these enhance the elasticity of the skin thus helping to keep it soft and firm.

Hibiscus flowers also carry out the process of removing lines, marks, wrinkles, etc., thus retaining the youthful appearance. It acts as a natural moisturizer and treats various skin conditions such as eczema, psoriasis, red patches, white patches, rashes, and scabies.

Hibiscus keeps the skin glowing, moisturized, supple, and fresh by removing toxins, dead cells, and impurities from the skin.

#### **Aids in Weight Loss**

Research shows that hydro citric acid is found in the flowers of the hibiscus and this acid is commonly found in medicines prescribed for weight loss processes.

So overweight and obese people can significantly reduce their body weight by consuming tea made by dried hibiscus flowers daily. The main reason for the increment of body fat is the increase in the amount of **starch** and **sugar**.

The enzyme inhibitors in hibiscus flower extract greatly stimulate the release of amylase, which breaks down sugar and starch and prevents fat accumulation in the body.

In a study of overweight mice, the flowers of this plant were shown to significantly reduce weight, and they also pave the way for reducing the absorption of starch and sugar.

Hibiscus flowers act as a natural laxative and reduce constipation problems and have diuretic properties that expel excess fluid from the body.

#### **Slows Down the Premature Aging**

The aging process is intensified due to cell damage caused by free radicals. Hibiscus is highly recommended to neutralize such harmful effects. This is because the high levels of antioxidants in these plants help slow down the aging process by neutralizing free radicals.

In addition, hibiscus plants contribute to the improvement of cognitive and brain functions. In an animal study published by the *Indian Journal of Pharmacology*, participants were given hibiscus juice.

At the end of the study, participants were shown to have effectively reduced dementia, age-related forgetfulness, reperfusion injury in ischemia, and cognitive disorders. Thus it's highly recommended for the elderly with dementia and cognitive impairment.

#### **Treats Various Respiratory Ailments**

Hibiscus flowers contribute greatly for the treatment of various respiratory problems such as asthma, bronchitis, and difficulty breathing. These greatly help in effectively eradicating respiratory tract infections and improving the health of the respiratory tract.

Hibiscus, which has *antimicrobial* properties, is very helpful in killing the germs in the airways and reducing their damage. It is noteworthy that the hibiscus has a unique place in the fight against respiratory infections from ancient times to the present day.

The extract of hibiscus flowers is an excellent source of vitamin C and is a beneficial remedy for coughs, colds, flu, sore throats, and mouth ulcers. Hibiscus is used as a traditional medicine in the treatment of bronchial cataracts.

#### **Boosts the Immune System**

Vitamin C plays an important role in promoting enzymatic production of certain neurotransmitters, repairing tissue, and promoting tissue regeneration. Hibiscus plant flower extract strengthens the body's natural defenses as it is an excellent source of high concentrations of vitamin C.

It gives strength to the body to fight effectively against infections and physical ailments. The strong antimicrobial properties of these plants help fight viruses and bacteria that weaken the body's immune system.

In-vitro studies upon humans demonstrated that the extract of hibiscus flowers has *antibacterial* activity.

#### **Helps to Induce Quality Sleep**

The flavonoids found in the flowers of *Hibiscus rosa-sinensis*, also known as China rose, react appropriately with monoamines to exhibit antidepressant properties. In a study of mice with neurological disorders, they were given hibiscus flower extract as medicine.

The study results showed that central nervous system disorders in rats were best treated and as a result they exhibited **antidepressant** activity. Researchers also stated that Hibiscus provides antidepressant effects for not only animals, but also for the human.

Hibiscus is important in relieving stress, insomnia and relaxing the body, thereby stimulating deep sleep. Those who have difficulty in sleeping and want to experience deep sleep, take the dried flowers or leaf powder of this plant orally

#### **Accelerates Wound Healing Process**

The combination of various chemical compounds in hibiscus leaf extracts accelerates the wound healing process. Furthermore, they help greatly in recovering damaged tissue and healing injured muscle areas.

Hibiscus extract was used externally on wounds in a study of mice with degenerative tissue. At the end of the study, it was revealed that on certain days their wounds healed and its positive results on the degenerated tissues.

Another study shows that the **ethanol extract** from the hibiscus plant is more effective in healing wounds than the nitrofurazone ointment, which is commonly prescribed for wounds.

Hibiscus stimulates collagen growth because increasing collagen growth in the injured areas accelerates the healing process.

#### **Maintains Healthy Digestive System**

Hibiscus helps greatly in promoting proper digestion. The flowers of the hibiscus plant help to break down the complex molecules of food and thereby provide energy. This procedure can easily treat digestive disorders such as indigestion and abdominal pain.

In addition, appetite is stimulated by regular intake of hibiscus flower extract, so it is advisable to children.

#### **Benefits For Women**

Hibiscus rosa-sinensis is very beneficial for women. That is, these plant flowers help in controlling excessive bleeding during menstruation and reducing menstrual cramps.

Hibiscus helps to soothe hot flashes that suddenly occur on the chest, face, and neck during menstruation, so women can take it in any form not only during menstruation but also on normal days as it



beneficial effects on the body.

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A decoction of hibiscus flowers is used in many parts of the world, including India and Bangladesh, to regulate the menstrual cycle and to control the problems that occur during it. In China, Hot juice made by flowers and bark of Hibiscus is used to treat irregular menstruation.



#### **How to Prepare Hibiscus Rosa Sinensis Products**

##### **Hibiscus Tonic**

###### **Ingredients :**

- Hibiscus Flower Petals – 25 to 30
- Water – 500ml

**Procedure :** Approximately 25 to 30 hibiscus flowers should be well dried and mixed with 500 ml of water and heated on a very low flame and ensure that the water does not boil. After a while, the water will turn purple, after the water should be cooled well and stored in a container. This tonic can be used as a conditioner every time when shampooing your hair, or you can apply this tonic on your hair and let it soak for 45 minutes. Then wash the hair so that the color of the hair turns dark black.

##### **Hibiscus Oil**

###### **Ingredients :**

- Hibiscus Leaves – 2 to 3
- Hibiscus Flowers – 4 to 5
- Regular Hair Oil – Required Amount

**Procedure:** Put 2 to 3 leaves of hibiscus and 4 to 5 flowers in a blender and crush well. Heat the crushed hibiscus mixture along with the oil you apply to the scalp daily. Once the juice of the leaves and flowers is completely mixed with the oil, turn off the flame. Before applying this hibiscus oil on the hair, it should be slightly warmed. Then rub it well on the hair & scalp and soak for about 30-45 minutes and then wash off.

##### **Hibiscus Tea**

###### **Ingredients :**

- Dried Hibiscus Flowers – 2 Cups
- Sugar – 500 grams
- Water – 2 liters
- Lemon – 2
- Vanilla Extract – ½ teaspoon

**Procedure:** In a metal pot, add 2 liters of water and well-washed dried hibiscus flowers and put in the stove and heat over medium flame. Once the water has reached the boiling point turn off the flame and let the contents cool slightly. Sediments and dried flowers can then be easily removed by transferring this mixture to another



vessel or cup. Add the required amount of sugar, lemon juice, and vanilla extract to this distilled water and mix well. The tea thus prepared can be served both hot and cold.

### Conclusion:

Hibiscus is a flowering plant that belongs to the genus *Mallow* in the *Malvaceae* family. Hibiscus remains a famous herbal remedy in countries globally. As research continues, it may become more broadly accepted as an effective medical treatment. However, apart from these great health benefits, hibiscus flowers used as medicine and home remedy for skin problems work really wonderfully. It is also known as an anti-ageing plant as it helps in enhancing skin elasticity. So, try the hibiscus remedies and see the positive changes in your health.

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