

Cosmetic and Medicinal Applications of Hibiscus Rosa Sinesis for the Management of Various Diseases: A Review

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ABSTRACT

For thousands of years, nature has provided medicinal agents, and an incredible number of modern medications have been isolated from natural sources, many of which are based on their use in traditional medicine. Over 50 % of all modern clinical drugs are of natural origin and play an important role in drug development programs in the pharmaceutical industry. The Hibiscus is easily available plant. This article focuses on the various applications of this plant for the treatment of various ailments.

KEYWORDS: *Hibiscus Rosa sinensis*, Herbal plants, Traditional drug

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1. INTRODUCTION

[1].Herbal plants are useful in the prevention and treatment of human ailments. Plants have been used as a kind of traditional medicine for thousands of years.[2].Plants, on the other hand, are thought to be rich suppliers of phytochemical compounds, which enable them to have medical benefit.[3].The pharmacological effects of medicinal plants have been identified as a prospective future drug/medicine for health care management in the twenty-first century. Because of the abundance of medicinal plants that nature has bestowed upon us, our land has been dubbed the "Medicinal Garden of the World."

[4].For many years, they have had a source of medical compounds, and an untold number of medications have been isolated from natural sources. The clinical application of plants described in the Indian Vedas for the treatment of various ailments. The traditional medical system is widely recognised and used by people all around the world in today's culture. [5]



Figure No.1 Hibiscus rosa sinensis Plant

For many years, they have had a source of medical compounds, and an untold number of medications have been isolated from natural sources. Traditional medicines are recommended by the WHO as safe treatments for both microbial and non-microbial

illnesses.[6].They also say that traditional health and folk medicine systems have been shown to be more effective in the treatment of health problems around the world, and that India is one of the best national blessed countries with a rich legacy and diverse variety of life.[7].Ayurveda, Unani, and Siddha are three Indian medical systems that utilise herbs and natural resources in their formulations.

1.1. Origin and Distribution

[8].Hibiscus rosa sinensis is a Malvaceae family attractive plant that was first described in 1753 by Carl Linnaeus. The blossoms were originally used to clean shoes in Jamaica and certain African countries, earning them the nickname "Shoe-flower." [9].They are said to have originated in China, but are currently found in India and the Philippines. This is a Malaysian natural flower. In Africa and other tropical regions, the Hibiscus has a long history of use.

[10].Sachets and fragrances have been made with their blossoms. Northern Nigerians have used this shrub to treat constipation. Jams, jellies, cold and warm teas, and drinks are all made with the fleshy red calyx. To relieve their thirst, people in Thailand drink roselle juice. It is commonly used in Egypt for the treatment of heart and neurological problems and is classified as a diuretic.[11].In Iran, sour tea is consumed for the treatment of hypertension as well as cancer.

2. MATERIALS AND METHODS

2.1. Collection of the plant material

Hibiscus rosa-sinensis Linn leaves were taken from a backyard garden. It is harvested in India throughout the months of November and December.

2.2. Extraction

[12].Hibiscus rosa sinensis leaves were washed and dried. Mucilage is completely released in water after soaking crushed leaves in water for 5-6 hours and then boiling for 30 minutes. 8 fold muslin towels were used to extract the marc from the solution. To precipitate the mucilage, three times the volume of acetone was added. The dry powder was obtained by heating it to over 50 degrees Celsius and sieving it (number 80). Dried powder mucilage was characterized for various physicochemical properties like percentage yield, particle size, swelling index, angle of repose etc.[13]. After electrophoresis, the mucilage recovered from Hibiscus plant leaves was homogeneous. It contains an acidic polysaccharide and has anti-complementary properties.

3. PHARMACEUTICAL ACTIVITY OF HIBISCUS ROSA SINENSIS.

A. Super disintegrant

[14]. Swathi S et al. investigated the impact of Hibiscus Rosa sinensis mucilage as a super

disintegrant in fast-dissolving tablets employing both readily and poorly soluble drugs. They employed levofloxacin as poorly soluble medication and rapid dissolving tablets of freely soluble tramadol hydrochloride. They compared two superdisintegrants, in this study: one is a natural superdisintegrant like mucilage isolated from Hibiscus rosa sinensis, and the other one is a synthetic superdisintegrant like croscarmellose sodium, using varied concentrations. We inform from our research that rapid dissolving tablets made with mucilage have better disintegrating properties than synthetic superdisintegrants.

B. Binder

[15].Chitta Suresh Kumar et al. debated the effects of Hibiscus rosa sinensis mucilage as a binder in diclofenac sodium matrix tablets. Mucilage from hibiscus leaves was employed in this investigation. The mucilage of Hibiscus rosa sinensis leaves was found to offer important properties for the sustained release of diclofenac sodium.

[16].Prakash Pawan et al, discuss about the *Hibiscus rosa sinensis* as a binder in a sustained release medicine delivery system. In this study, the mucilage was combined with diclofenac sodium matrix tablets to determine the formulation's release retardant activity.

[17].Gauda Harikrishnakasani et al. were disputed the effects of Hibiscus rosa sinensis leaves mucilage in the formulation of propranolol hydrochloride sustained release floating matrix tablets Hibiscus rosa sinensis is used as the matrix forming material in this experiment.

4. CHEMICAL CONSTITUENTS

[18].Flavonoids, ascorbic acid, niacin, riboflavin, and thiamine are all found in the Hibiscus flower. Quercetin-3-diglucoside, 3,7-diglucoside, and cyanidin-3,5-diglucoside were isolated from the ovary of white flowers. Quercetin-3-diglucoside, 3,7-diglucoside, and cyanidin-3,5-diglucoside were isolated from the ovary of white flowers. The leaves and stem of Hibiscus contain-Sitasterol, taraxerylacetate, stigmaterol, fatty acids, fatty alcohols, and hydrocarbons. Malvalic acid and sterculic acid are two cyclic acids discovered. Alkaloids, glycosides, fatty materials, resins, sterols, tannins, and Saponins are all found in Hibiscus rosa sinensis.[19].Vitamins, cyanidin, diglucoside, flavonoids, ascorbic acid, niacin, riboflavin, and thiamine were studied in the Hibiscus flower.

5. COSMETIC AND MEDICINAL APPLICATIONS OF HIBISCUS ROSA SINENSIS

COSMETIC APPLICATIONS

➤ FOR HAIR

- **Prevents premature greying of the hair**

[20].It contains antioxidants and vitamins that are required for the formation of melanin, the pigment that gives hair its unique colour. Hibiscus is mentioned in both ancient Ayurveda and modern science as a natural hair colour for masking grey hair.

- **Prevents the beginning of baldness**

In our research, we discovered that hibiscus extracts can be used to cure baldness. Hibiscus is said to be a safe technique to regrow hair. The use of hibiscus is just as beneficial as baldness medications. Apart from being similarly effective, Hibiscus does not cause any bad side effects that these medicines produce.

- **Promotes the growth of new hair**

[21].Hibiscus flowers contain amino acids that aid to nourish hair and encourage hair growth. These amino acids make keratin, a structural protein that is the building block of hair. Keratin binds the hair together, making it less prone to breakage. It also increases the overall thickness of the strands, making the hair more manageable.

- **Extensive conditioning**

[22].Hibiscus flower and leaves contain a lot of mucus, which functions as a natural conditioner, so we may use it instead of shampoo to nourish your hair and restore its natural moisture management.

- **Colouring of the hair**

[23].It's a natural hair colour that, when combined with mehendi or methi dana, results in lustrous black hair. It may also be used as a hair dye for grey hair, and when mixed with coffee powder, it produces a rich brown colour that is quite attractive.

➤ FOR EYE

[24]It is also used to produce blacken the eye and eyebrows.

➤ FOR SKIN

- **Toner for the skin**

Hibiscus powder helps to balance out skin tone while also reducing hyperpigmentation and ageing spots. Hibiscus helps to speed up cell turnover, resulting in a more even-looking skin tone, thanks to the slight exfoliating impact of the organic acids found in the plant.

- **Brightening of the skin**

[25].Pure hibiscus powder is high in antioxidants and improves the complexion of the skin by breaking down dead skin cells. It contains all of the necessary

antioxidants to fight ageing indications and helps a woman appear much younger than her actual age.

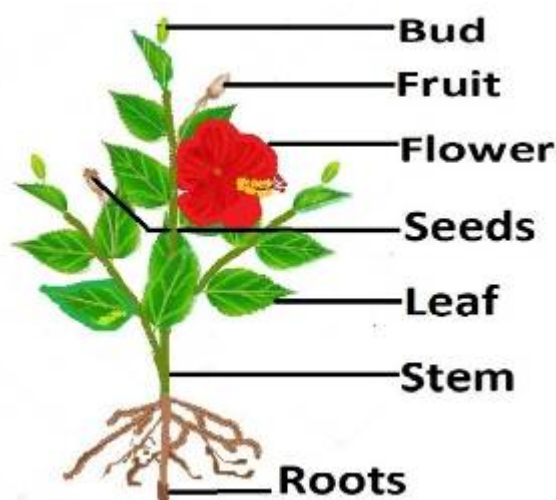


FIGURE NO.2 PARTS OF A HIBISCUS PLANT

- **Hydrated skin**

[26].Consumption of hibiscus tea aids in the hydration of the skin. This is great news for skin that is thirsty for moisture and hydration.'Moisturize your skin to help it retain hydration and suppleness'.

- **Anti-aging**

[25].Hibiscus is high in antioxidants, which aid in the treatment of skin damage caused by dust, pollutants, UV rays, and diseases.

A. MEDICINAL APPLICATIONS

- **Antibacterial properties**

[27]Al-Hashimi et.al discussed about the antimicrobial activity of Hibiscus rosa sinensis from the leaf extract. The floral extract of *Hibiscus rosa sinensis* was found to be effective against human infections in this investigation. They assessed antibacterial activity using the disc and agar diffusion methods. The extract of Hibiscus rosa sinensis was found to have a considerable antibacterial effect.

- **Anticonvulsant properties**

[28]Birari RB and Anoop S,et al. present information on the anticonvulsant effect of ethanolic extracts of *Hibiscus rosa sinensis* flower. According to bioassay guided fractionation, the anticonvulsant activity was found in the acetone soluble component of the ethanolic extract of Hibiscus rosa sinensis flower. The ethanolic extract of Hibiscus rosa sinensis was found to have considerable anticonvulsant efficacy.

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- **Analgesic Effects**

[29]Alka Sawarkar et al investigated the analgesic effect of *Hibiscus rosa sinensis*. Aqueous and alcoholic extracts were produced from the dried leaves of *Hibiscus rosa sinensis* in a recent study. The analgesic effect of this extract is dosage dependant. The extractability percentage in the leaves was discovered to be 20%.

- **Antioxidant properties**

[30].The crude extract of *Hibiscus rosa sinensis* showed antioxidant potential, according to Rajesh mandate. Various antioxidants include butylated hydroxyanisole, butylated, and tocoferol. Radical chemicals that are used as a reference. Standard oxidants like BHA, BHT, and tocoferol, on the other hand, limit at a concentration of 60 µg/ml. The crude extract of *Hibiscus rosa sinensis* was used to extract natural antioxidants, and the findings were promising

- **Anti-inflammatory properties**

[31].Vivek tomar et al elucidates the anti inflammatory activity of *Hibiscus rosa sinensis*. *Hibiscus rosa sinensis* is used to treat a variety of inflammatory disorders, including blenorhea, asthmatic bronchitis, and oral mucosa irritation. The methanolic extract of *Hibiscus rosa sinensis* leaves was employed for anti-inflammatory properties. Various animal models were employed in this investigation to assess for inflammatory activity. Dextran causes inflammation, and indomethacin was used as a conventional medication against carrageenan.

- **Anxiolytic properties**

[32].Using a methanolic extract of *Hibiscus rosa sinensis* flower with anthocyanidins, P Shewale et al investigated the effect of anxiolytic action in mice. They determined that the methanolic extract and anthocyanidins had potential anxiolytic action through involving dopamine, nonadrenalin, serotonin, and gamma amino butyric acid procedure.

- **Antipyretic properties**

[33].Sawarkar. A.R et al investigated the impact of *Hibiscus rosa sinensis* as an antipyretic. n rats, Using the leaves of this plant and the wistar rat, the antipyretic activity was determined. To lower the elevated temperature, aqueous and alcoholic extracts of plant were employed and compared with the control group.

- **The wound-healing process**

[34].B.Shivnanda Nayak et al used *hibiscus rosa sinensis*, which has wound healing potential, in their investigation on Sprague dawley rats. *Hibiscus rosa*

sinensis ethanolic extract was employed. When compared to control animals, those treated with ethanolic extract of *Hibiscus* plant had an 86 percent reduction in wound area.

- **Anabolic effect**

[35].Olagbende-Dada et al. elevated the anabolic action of *Hibiscus* leaf extract. Because they are involved in protein synthesis, aphrodisiac herbs have anabolic activity and hence boost male sexual capacity. Because its qualities are similar to those of androgen, a male hormone, it is also known as an androgenic plant. The aphrodisiac action of *Hibiscus rosa sinensis* cold aqueous extract has been documented.

- **Anti- anxiety activity**

[36].Khan Mohammad Junaid et al. described the anxiety-inducing exploratory and locomotor activity of *Hibiscus* plant. It is a medicinal plant with a cooling and soothing effect. From the result the difference is obtained that the ethanolic extract showed better performance in comparison to chloroform extract. Both extracts had no effect on the urination and defecation of animals. According to the result this plant showed anti-anxiety activity

- **Anti-diabetic properties**

[37]. *Hibiscus* tea may help persons with diabetes control their blood pressure. In addition, research suggests that hibiscus may aid in the reduction of insulin resistance.

- **Fertility and contraception**

[38].Kholkute SD and Mudgal V, talked about using *Hibiscus rosa sinensis* extract for fertility and contraception, only the flower has anti-fertility activity. The antifertility effect changes with the season. Antifertility activity was highest in the winter and lowest in the summer. The plant had an effect on both female and male fertility. Flower extracts help to boost endocrine function and sperm production. The flower extract causes various alterations in the rat, such as a reduction in the weight of the testis, reproductive organs, and pituitary glands. The activity of the accessory sex organs resumed once the medicine was stopped, confirming the function of *Hibiscus* plant as an antifertility.

6. CONCLUSION

According to the information gathered, the *Hibiscus* flower is still used as a popular herbal cure in many nations throughout the world. It may become more widely acknowledged as an effective treatment as a research country. The polysaccharides in the ethanolic extract of *Hibiscus rosa sinensis* mucilage are abundant, and they have excellent physicochemical qualities such as a neutral pH, a

higher swelling index, good flow properties, and a tiny particle size. Apart from their incredible health advantages, they're also employed in a variety of medicines and home remedies for skin and hair issues. They have a wide range of medicinal and pharmacological effects.

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