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Phytochemistry, pharmacology and Unani traditional uses of *Khubazi* (*Malva sylvestris* Linn.): An overview

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Abstract

Many traditional system of medicines highly consider *khubazi* (*Malva sylvestris* Linn.) for the therapeutic properties of its leaves, seeds, and roots. The plant grows in Punjab, Kashmir, Andhra Pradesh, Karnataka, and Maharashtra, but it can be found throughout India's plains. Unani System of Medicine is one of the oldest system of medicine where the magical part of this plant are used internally to treat strangury, urinary discharges, blood purification from scorpion stings, enlargement of the spleen, sore throat, and chronic bronchitis. Many nations have been using medicinal herbs for ages to cure various illnesses. Common mallow is defined as *Malva sylvestris* L., a species of mallow that is derived from the Malvaceae family. With its antibacterial, hepatoprotective, anti-inflammatory, and antioxidant qualities, this remarkable plant is regarded as one of the most promising species to use in Unani medicine. Numerous actions recorded in Unani literature are demonstrated by the scientific examination of *Khubazi*. However, more investigation is required to determine *Khubazi's* mechanism of action, active ingredients, and clinical utility. Given the promising outcomes against a range of diseases, further research is necessary to establish this as a routine treatment. This review mostly concentrates on the traditional applications of *Malva sylvestris*, as well as its pharmacological properties, phytochemical components, and future research perspectives.

Keywords: *Khubazi*, glycosides, *Malva sylvestris* Linn, Unani medicine

1. Introduction

One of the therapeutic herbs known as common mallow in Europe, Iran, Pakistan, and India is *Khubazi* (*Malva sylvestris* Linn.) The biennial-perennial herbaceous plant *M. sylvestris* is widely distributed in North Africa, Europe, and Southwest Asia. It has long been used to treat digestive and respiratory disorders in the Ayurvedic, Unani, and Siddha systems of medicine [1]. With eighty percent of the world's population relying on complementary and alternative medicine for their medical requirements, there is a growing interest in assessing the therapeutic effects of plants. The drug *Khubazi* consists of dried fruits of *Malva sylvestris*. Use of the drug *Khubazi* in Unani system of medicine dates back about thousands of years. It was mentioned in Unani Classical Book, *Kitabul Hashaish* of Dioscorides (1st B.C.); this was used by both Greeks and Romans as a medicine on account of its mucilaginous and cooling properties. It is an erect, branched, nearly glabrous, woody biennial or perennial plant found throughout the plains of India [2]. The fruit of *Khubazi* are light brown coloured consist of from 10-12 glabrous wrinkled carpels, each containing one reniform seed; some of it are mature, but around half are in various stages of maturity, a portion of the thin papery calyx is attached to the fruit, and in a good fresh sample a few deep blue flowers may be found as well as the peduncles and portions of the leaf. Seeds are planted, and produce flowering plants in the rainy season [3]. *Khubazi* as a whole is a perennial herb of 0.3- 1.2m high with tall, erect, strong, woody and branched stem; leaves on long stalks. 3-7 lobed, reniform at the base, lobes radiating from a common centre, the lobes are shallow with margin scalloped, smooth above and roughly hairy below. It is distributed in India in West temperate Himalayas from the Punjab to Kumaon 2000-8000 ft. - In Bombay, Mysore and Madras; and as a weed of cultivation in Siberia, Caucasus, Europe, North Africa [4].

2. Materials and Methods

The information on *Khubazi* was obtained from online databases, including PubMed, Google Scholar, Web of Science, Science Direct, and a library search was conducted from classical textbooks of Unani literature.

3. Results and Discussion

3.1 Botanical classification ^[5]

Kingdom	Plantae
Phylum	Tracheophyta.
Class	Magnoliopsida Dicotyledons
Order	Malvales
Genus	Malva
Species	<i>M. sylvestris</i>
Family	Malvaceae

3.2 Vernacular names ^[6,7]

Arabic: Khubazi

Turkish: Am kamaji

Farsi: khatmi, kochak, khoobar, khairo

Urdu: *Khubazi*

Hindi: Papda

English: Common mallow, cheese, high mallow, marsh mallow, cheese cake, leaves of bread

Kannada: Saunabindigegida

3.3 Botanical description

One of the therapeutic plants known as common mallow in Europe, Iran, and India is *Malva sylvestris* L. (*Khubazi*) ^[8,9]. The plant typically grows in damp places, such as those that are close to rivers, ditches, marshes, oceans, and meadows ^[10]. The Romans and ancient Greeks employed this plant as a

softener because of its calming qualities ^[11]. These medicinal herbs have historically been used to cure a variety of illnesses and infections, including tonsillitis, bronchitis, burns, colds, and coughs., digestive problems, eczema, and cut or wounds under different weather conditions ^[12]. As a natural product, *M. sylvestris* leaves and flowers showed various therapeutic effects. Fluid extracts of *M. sylvestris* leaves and flowers are used to treat inflammatory diseases of mucous membranes, cystitis, and diarrhea ^[13]. This plant derives its restoration competencies from the mucilage and flavonoids located in the vegetation and leaves. Young leaves, shoots, flowers, and fruits are consumed in salads, soups, or boiled root vegetables. Flowering flora in the mallow family (Malvaceae) or hibiscus generally include the *Malva* and *Hibiscus species*. Herbal medicine is one of the oldest treatment practices followed by humans. In the last 30 years, medicine specialists focus on the use of medicinal herbs in preventing and treating diseases. Among the numerous species used in traditional medicine, Malvaceae family is more prominent due to its diverse applications, and its consumption can be traced back to 3000 years ago. This drug is used in Brazil to treat bronchitis, wounds, colitis, and hemorrhoids. The chemicals in the leaf of *Malva*, which has many vitamins, allow for faster recovery by secreting certain analgesics to reduce pain and discomfort. Figure 1 depicts the plant, seeds and flowers of *M. sylvestris* below ^[14,15].



Fig 1 (a): *M. sylvestris* Plant



Fig 1 (b): *M. sylvestris* Seed



Fig 1 (c): *M. sylvestris* Flower

3.4 Unani description ^[16]

According to the eminent Unani physician *Allama Nafees Khubazi* is a common plant which grows wild and cultivated. However, its wild variety is most commonly found in India. It has been used since ages by Rome, Greece and several Asian countries because of its mucilaginous, healing and anti-inflammatory effects.

3.5 Parts used ^[17]

Seeds, roots, leaves and flowers.

3.6 Mizāj (Temperament) ^[17]

Barid-Ratab (cold and moist).

3.7 Miqdar e Khuraq (Dose) ^[18]

9-17.5 gm, 5 *masha*

3.8 Musleh (Corrective) ^[18]

Ruboob e fawakha (fruit juice)

3.9 Badal (Substitute) ^[18]

Branches and leaves of *khatmi* (*Althea officinalis*)

3.10 Murakkabat (Compound formulations) ^[2]

Laoq Sapistan, Sharbat e Ejaz, Matbookh e Nazla

3.11 Af'al (Pharmacological actions) ^[16, 19, 20]

Mudir e bawl(diuretic), *Mulayyan*(laxative), *Muwalid e laban*(Galactogauge), *Muhallil e awram*(Anti-inflammatory) *Munaffit e balgham* (Expectorant), *Buhat al-Sawt*, (Hoarseness of voice) *Saul-i-Har wa yabis*, (Dry cough) *Qarh e ama* (Intestinal Ulcer), *Rahemwa ama* (irritation of Anal canal, Uterus and intestines), *Antidote, Saul-i-yabis*, (Dry cough) *Qarh e ama* (Intestinal Ulcer), *Rahemwa ama* (irritation of Anal canal, Uterus and intestines), *Antidote, Nazla, zukaam*, (cold and corryza) *Amraz-e-Riya* (Respiratory disorders). *M. sylvestris* also contributes in treating some dermatological disorders as listed below:

Table 1: Uses of *M. sylvestris* in Dermatological disorders

Extract/formulations	Findings
<i>M. sylvestris</i> plant extracts	High pigmentation inhibition effect and excellent skin whitening ^[21] .
Flowers, hydroalcoholic extract	Antiulcer by topical application and anti-inflammatory ^[22] .
Flowers, roots and leaves	Acne, boils ^[23] .

3.12 Chemical constituents

Assessment of the leaves of *M. sylvestris* has shown the presence of essential and nonessential metallic elements,

halogens, and nonmetals. *M. sylvestris* has exhibited a considerable ability to accumulate substantial metals (Zn, Pb, Ni, Cu, and Cd) from soils rich in these materials. Sulfite oxidase has additionally been discovered in the leaves of *M. sylvestris* and has been found in numerous bacteria and animal species. Various phenolic derivatives have been found in extracts from different parts of *M. sylvestris*. *M. sylvestris* is also rich in Polysaccharides, coumarines, flavonoids, malvin, -(6"-malonylglucoside)-5-glucoside, scopoletin, polyphenols, niacin, folic acid, vitamin A, vitamin C, Vitamin E ^[24].

4. Pharmacological activities

M. sylvestris exhibits numerous pharmacological activities. Some of them are listed below:

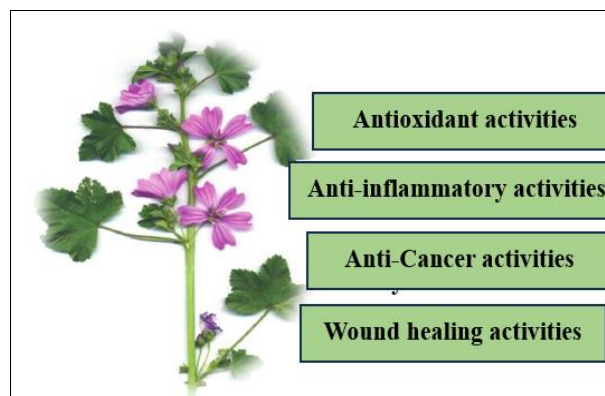


Fig 2: Medicinal applications of *M. sylvestris*

4.1 Anti-oxidant activities

M. sylvestris has antiradical properties due to high phenolic contents and is capable of preventing oxidation. Flavanoids compounds in this plant have high inhibitory power. These plants are also free of complications in comparison to chemical drugs. The production of different oxygen species over the body's antioxidants causes oxidative stress. Evidence suggests that stress is one of the essential factors of aging in brain function, liver disease, cardiovascular disorders, and cancer ^[25].

4.2 Anti-inflammatory activities

Several research groups have investigated *M. sylvestris* for anti-inflammatory activity. Its leaves possess topical anti-inflammatory properties. The results of studies on the antimicrobial properties of *M. sylvestris* indicate that the plant also has antibacterial and antiviral activity against many human pathogens ^[26, 27].

4.3 Anti-Cancer activities

Reports show that *M. sylvestris* possesses anticancer properties. Daniela et.al demonstrated cytotoxic activity of *M. sylvestris* leaf extracts on human cancer cell lines. The biological test found that *M. sylvestris* extracts significantly decrease cancer cell lines [28].

4.4 Healing of Atopic Dermatitis

M. sylvestris is the most common dermatological ailment treatment, for example, atopic dermatitis; however, conventional therapeutics, such as corticosteroids and antihistamines, have no effects. Natural agents, which generally have no extensive side effects, could be used to determine its efficacy. In this study, its effectiveness in treating atopic dermatitis was assessed and it could topically be used as an effective cream to reduce the dermatitis symptoms in children [29].

5. Conclusion

The importance of *M. sylvestris* as a therapeutic herb was demonstrated by this review. The results show that a fair amount of research has been done on the chemical components, pharmacological effects, and many facets of the *Malva* plant. *M. sylvestris* is a useful and inventive plant that possesses potent medicinal qualities. The potential health benefits of this substance have been demonstrated by studies because of its antibacterial, hepatoprotective, anticancer, wound-healing, and antioxidant properties. The roots, flowers, and leaves are all utilised medicinally. Here, the primary phytochemical components found in methanolic extracts, unique organic activities, and pharmacological properties of *M. sylvestris* were reviewed. Thus, we may say that *M. sylvestris*, also known as khubazi, is a fortunate traditional medicinal herb that could greatly assist humanity.

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7. Conflict of Interest

The authors declare no conflict of interests

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