

A review article on the medicinal value of Aloe-Barbadensis (Aloe Vera)

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ABSTRACT: Aloe-Barbadensis, also known as aloe vera, is a succulent plant that has been used for centuries for its medicinal properties. The gel extracted from the leaves of the plant contains a variety of compounds with anti-inflammatory, antimicrobial, and wound healing properties. Aloe vera has been shown to be effective in treating a variety of conditions, including burns, cuts, eczema, and ulcers. It has also been shown to have potential benefits for the treatment of other conditions, such as diabetes, hypertension, and high cholesterol. This review article will discuss the scientific evidence supporting the medicinal properties of aloe vera. It will also discuss the potential risks and side effects of the plant. The article will conclude with a summary of the current research on aloe vera and its potential uses. Here are some of the specific medicinal properties of aloe vera: Anti-inflammatory: Aloe vera gel has been shown to reduce inflammation in the skin and in the gut. Antimicrobial: Aloe vera gel contains compounds that can kill bacteria, viruses, and fungi. Wound healing: Aloe vera gel can help to promote wound healing by stimulating the production of new cells and collagen. Anti-diabetic: Aloe vera extract has been shown to lower blood sugar levels in people with diabetes. Hypolipidemic: Aloe vera extract has been shown to lower cholesterol levels in people with high cholesterol. Overall, the scientific evidence suggests that aloe vera has a number of potential medicinal benefits. However, more research is needed to confirm these findings and to determine the optimal dosage and form of the plant for different conditions.

Keywords - Aloe Vera, Medicinal benefits, Phytochemicals, Antimicrobial activity, Medicinal activity.

INTRODUCTION

SCIENTIFIC CLASSIFICATION

Kingdom- Plantae
Sub-kingdom- Tracheobionta
Class- Lillidae
Division – Magnoliophyta
Phylum- Spermatophyta
Order- Asparagales
Family- Asphodelaceae
Genus- *Aloe*
Scientific name- *Aloe barbadensis*

GEOGRAPHICAL DISTRIBUTION

A. barbadensis is viewed as local just toward the south-east Arabian Peninsula in the Hajar Mountains in north-eastern Oman. However, it has been broadly developed all over the planet, and has become naturalized in North Africa, as well as Sudan and adjoining nations, alongside the Canary Islands, Cape Verde, and Madeira Islands. It has likewise naturalized in the Algarve district of Portugal and in wild regions across southern Spain, particularly in the area of Murcia ^[1]. The species was acquainted with China and different pieces of southern Europe in the seventeenth century. It is broadly naturalized somewhere else, happening in parched, calm, and tropical areas of mild continents. The ongoing dissemination might be the consequence of cultivation.

PLANT DESCRIPTION

Aloe vera develops to a level of 12 to 16 inches or at times 60 to 100 cm. It has no stems. Aloe Barbadensis Miller comprises of thick beefy leaves with sharp tooth like focuses or spikes at the edges. The leaves of aloe-vera grow up to 18 crawls long and 2 creeps in width at the base ^[2]. An Aloe Barbadensis Miller plant is normally green or dark green in variety. The leaves of aloe-vera

are long and three-sided in shape. The plant has a sinewy underground root growth which is thick and has Mycorrhizal affiliation. The leaves of aloe vera have rich water content and the tissues in the focal point of aloe vera leaf contain gel ^[3]. This causes the plant to get by for a really long time absent a lot of water or supplement necessities. It has a three-sided container formed organic product that contains various seeds. Aloe vera sprouts in summer. Its blossoms are delivered on a spike something like 90 cm tall, each bloom being pendulous with yellow to red cylindrical corolla which is 2 to 3 cm long ^[4].

USES

Two substances from Aloe-vera - an unmistakable gel and its yellow plastic - are utilized to fabricate business products. Aloe gel regularly is utilized to make skin meds for skin conditions, like sunburns, wounds, frostbite, rashes, psoriasis, mouth blisters, or dry skin. Aloe plastic is utilized separately or made as an item with different fixings to be ingested for help of constipation. Aloe plastic might be gotten in a dried structure called sap or as "aloe dried juice" ^[5]. There is clashing proof in regards to whether Aloe vera is powerful as a treatment for wounds or burns. There is some proof that skin utilization of aloe items could let side effects free from specific skin problems, like psoriasis, skin inflammation, or rashes ^[6]. Aloe vera gel is utilized monetarily as a fixing in yogurts, refreshments, and some desserts, however at high or delayed dosages, ingesting aloe plastic or entire leaf concentrate can be toxic. Use of effective aloe vera in limited quantities is probably going to be safe ^[7]. Specialists likewise concentrating on Aloe vera gel as a biodegradable electrolyte.

MEDICINAL USES

- A. **For external wounds, insect bites & sunburn:** Aloe-vera has antibacterial as well as mitigating properties because of which it mends outer injuries, bug chomps and sun related burns. Aloe-vera gel follows up on the epithelial layer of skin when straightforwardly applied to the impacted region, assisting the skin with holding its dampness ^[7,8,9].
- B. **For Hair fall:** Aloe Vera contains proteolytic proteins that eliminate dead cells, and help in the recovery of new cells. It likewise helps in imbuing dampness to the scalp and hair, accordingly re-establishing the scalp's pH (5.5 - somewhat acidic). The antimicrobial and antibacterial properties of aloe Vera help in battling against scalp diseases. Aloe Vera gel helps in the treatment of dandruff related problems, thus advancing hair development. Aloe-vera gel can be utilized as a leave-in conditioner for your hair since it can condition your hair better than any economically accessible conditioners ^[10,11].
- C. **For Skin:** The aloe-vera leaf contains gibberellins and auxins which have antibacterial and anti-**Phytochemical activity:** A. **Barbadensis** is the rich source of phytochemicals that used for various medicinal purpose that mentioned above. Mostly the leaves of aloe vera have tannin, alkaloids, saponins, glycosides and other useful active compounds that kill or inhibit the bacteria as well as the fungus. These phytochemicals also used to prevent hair fall as well as the anti-ageing agent.
- D. **Antimicrobial activity:** Aloe vera gel was bactericidal against *Pseudomonas aeruginosa* and acemannan prevented it from adhering to human lung epithelial cells in a monolayer culture. The aloe extract was potent against three strains of Mycobacterium (*M. fortuitum*, *M. smegmatis* and *M. kansasii*) and a strong anti-mycobacterial activity against *M. tuberculosis* as well as antibacterial activity against *P. aeruginosa*, *E. coli*, *S. aureus* and *S. typhi*. The preliminary phytochemistry revealed presence of terpenoids, flavonoids and tannins. Thus, *Aloe secundiflora* could be a rich source of antimicrobial agents and it can give scientific backing to its use by the local people of Lake Victoria region of Kenya.



ALOE VERA BIO-ACTIVE INGREDIENTS AND ITS BIOLOGICAL ACTIVITIES

CONCLUSION

Aloe-Barbadensis, or aloe vera, is a succulent plant that has been used for centuries for its medicinal properties. The gel extracted from the leaves of the plant contains a variety of compounds with anti-inflammatory, antimicrobial, and wound healing properties. Aloe vera has been shown to be effective in treating a variety of conditions, including burns, cuts, eczema, and ulcers. It has also been shown to have potential benefits for the treatment of other conditions, such as diabetes, hypertension, and high cholesterol. However, more research is needed to confirm these findings and to determine the optimal dosage and form of the plant for different conditions. In addition, some people may experience side effects from using aloe vera, such as diarrhea, vomiting, and allergic reactions. Therefore, it is important to talk to your doctor before using aloe vera for any medical condition. Here are some of the key points to remember about the medicinal value of aloe vera:

- Aloe vera gel has anti-inflammatory, antimicrobial, and wound healing properties.
- Aloe vera has been shown to be effective in treating a variety of conditions, including burns, cuts, eczema, and ulcers.
- Aloe vera may have potential benefits for the treatment of other conditions, such as diabetes, hypertension, and high cholesterol.
- More research is needed to confirm these findings and to determine the optimal dosage and form of the plant for different conditions.
- Some people may experience side effects from using aloe vera, such as diarrhea, vomiting, and allergic reactions.
- Overall, the scientific evidence suggests that aloe vera has a number of potential medicinal benefits. However, more research is needed to confirm these findings and to determine the optimal dosage and form of the plant for different conditions. If you are considering using aloe vera for any medical condition, it is important to talk to your doctor first.

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