

AN IMPORTANT MEDICINAL PLANT *ALOE VERA*

Rohit Bhargav

Himalaya Garhwal University, Uttarakhand

DOI: <https://doi.org/10.5281/zenodo.10689611>

ABSTRACT:

Many active chemicals can be found in aloe vera, an effective medicinal plant. There are over 430 species in the genus Aloe, and they all do well in hot weather. This plant has the appearance of a cactus. Aloe vera, a common plant in India, has been shown to offer several pharmacological benefits, such as relief from inflammation, immune modulation, wound healing, moisturizing, anti-aging, and skin protection. It is also antibacterial, antifungal, antiviral, and antiproliferative. Phytochemical screening is a method for determining the components of plants.

Keyword: Antibacterial, Antifungal, Antiviral, Antiproliferative, Antidiabetic, Laxative,

1. Introduction:

Aloe vera is a drought-tolerant perennial succulent plant of the Asphodelaceae family. The Hebrew word "halal" and the Arabic "alloeh" sound are the sources of the word "aloe," which means "bitter shiny material." In traditional medical systems like ayurveda, siddha, unani, and homoeopathy, it has a lengthy history. Beautiful plants called aloes can be grown in gardens or in containers. Succulent collectors prize various species of succulents because they are highly decorative. Approximately 2100 BC, a group of Sumerian clay tablets marked the introduction of aloe as a medicinal herb more than 4,000 years ago. A thin layer of edible coatings typically serves as a barrier against moisture and external gasses on the fruit's exterior. Aloe vera gels

Aloe gels help to preserve food by reducing the respiration and transpiration of fresh produce and postponing food degradation.

2. Vernacular Name

Hindi: Gwar patha

Sanskrit: Ghrit kumari

3. Taxonomic Classification

Kingdom: Plantae

Division: Magnoliophyta

Class: Liliopsida

Order: Asparagales

Family: Asphodelaceae

Genus: Aloe

Species: vera

B. Name: Aloe vera

4. Distribution:

It is mostly thriving in arid conditions found in Africa, Asia, Europe, and America. Among other Indian states, it can be found in Tamil Nadu, Gujarat, Maharashtra, Rajasthan, and Andhra Pradesh. Apart from being widely used in ointments and cosmetics worldwide, this is very popular in Canada. As a drink, it is also consumed internally. Aloe is commercially grown in the Rio Grande Valley in southern Texas, Florida, Mexico, and several Caribbean islands where it thrives in the chalky soil and sand, receives adequate sunlight, and stays out of the cold.

5. Botanical Characters:

Aloe vera is a perennial plant with a pea-green color that can be either shrubby or arborescent. Along with seeds-filled fruits, the plant also bears triangular, fleshy leaves with serrated edges and yellow tubular blooms. The aloe plant is a perennial that, unlike agaves, forms a rosette of thinner, fleshier basal leaves from a sturdy, fibrous base. traits of plants.

Arborescent or shrubby, aloe vera is a perennial, xerophytic plant with pea-green foliage. Moreover, the plant yields fruits that are packed with seeds, triangular, fleshy leaves with serrated edges, and yellow tubular blooms. An alternative rosette of thinner, fleshier basal leaves arises from a sturdy, fibrous base of the perennial aloe plant compared to the agave. With sharp teeth on both sides, the leaves are narrow-lanceolate and whitish-green in color. With occasional white spots on the top and lower stem surfaces, the thick, meaty leaves have a tone ranging from green to grey-green.

6. Chemical Constituents:

Glucomannans, mannose, and other long-chain carbohydrates are found in aloe vera. Chemical investigations reveal that the clear gel contains proteins, amino acids, enzymes, vitamins, and minerals in addition to biological stimulators (3). The vitamins present in *A. vera*—A, B1, B2, B6, B12, C, and E—cannot be produced by the human body. B complex and vitamin C will be needed to reduce stress and inflammation.

7. Phytochemical Studies:

Aloe lectins and anti-tumor Aloe emodin are mixed with polypeptides to cure cancer. Aloe vera has been pushed for internal consumption as a remedy for numerous conditions, including but not limited to coughs, wounds, ulcers, gastritis, diabetes, cancer, headaches, arthritis, and deficiencies in the immune system. However, its laxative properties are its main internal function. It is a source of functional foods or an ingredient in other foods in the food business (4).

8. Traditional knowledge and Medicinal properties of Aloe vera:

Polypeptides along with Aloe lectins and anti-tumor emodin are used to cure cancer. Aloe has been marketed as an internal remedy for a number of illnesses, including cancer, diabetes, ulcers, coughs, wounds, gastritis, headaches, arthritis, and deficiencies in the immune system. However,

laxative action is its main internal function. It is utilized in the food sector as a source of functional foods or as an ingredient in other foods (4).

9. Antimicrobial Activity of Aloe vera:

Resistance to antibiotics in bacteria is becoming a greater issue. Due to extremely resistant bacteria, many bacterial infections are incurable with currently available medications. Since plant-based medications are less expensive, looking for natural remedies is a preferable option. The properties of aloe vera extracts that either kill or prevent the growth of bacteria or other germs include antibacterial inhibitory property, antifungal activity, and antiviral activity. The Aloe vera plant extracts have been demonstrated to exhibit antibacterial properties against a number of bacteria, including *Candida albicans*, *Bacillus subtilis*, *Staphylococcus aureus*, *Proteus mirabilis*, and *Pseudomonas aeruginosa* (5).

10. Conclusion:

Aloe vera is among the most substantial and beneficial therapeutic herbs. These herbs are used in modern and conventional medicine today. They yield several important phytoconstituents that are highly sought after both domestically and internationally.

11. REFERENCES:

1. T.J. Michailides and G.A. Manganaris, "Harvesting and handling effects on postharvest decay" Stewart Postharvest Review, Vol. 5, Page 1–7, 2009.
2. İ. Kahramanoğlu, C. Chen, J. Chen and C. Wan, "Chemical Constituents, Antimicrobial Activity, and Food Preservative Characteristics of Aloe vera Gel," Agronomy, Vol. 9, Page 831, 2019.



3. W.T. Mabusela, A.M. Stephen and M.C. Botha, “Carbohydrate polymers from Aloe ferox leaves,” *Phytochemistry*, Vol. 29, Page 3555–3558, 1990.
4. J. H. Hamman, “Composition and applications of Aloe vera leaf gel,” *Molecules*, Vol. 13, Issue 8, Page 1599-616, 2008
5. G.C. Yebpella, C. Hammuel, M.M. Adeyemi Hassan, A.M. Magomya, A.S. Agbaji and G.A. Shallangwa, “Phytochemical screening and a comparative study of antibacterial activity of Aloe vera green rind, gel and leaf pulp extracts,” *International Research Journal of Microbiology*, Vol. 2, Issue 10, Page 382-386, 2011.