

Review

Medicinal and Cosmetological Importance of *Aloe vera*

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Summary: *Aloe vera* belongs to the family Liliaceae, and is commonly called *Quargandal*, *Ghritkumari*, *Gheekvar*, *katraazhai* or *kumari*. It is widely used in medicines. It has been used to treat constipation, burns, genital herpes, dandruff, osteoarthritis, inflammatory bowel disease, asthma and epilepsy. With the improvement in cosmetology, it has been proved that *Aloe vera* is a very important component of cosmetics.

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Aloe vera is a plant with height of almost 60–100 cm containing very short stem or stemless long leaves, and belongs to the family Liliaceae. In Pakistan, the plant is known as *Quargandal* and in India, the plant is known as *Ghritkumari* or *Gheekvar* and in Tamil naadu, *Aloe vera* is known as *katraazhai* and it has also a pet name *kumari*. It is cultivated in tropical and subtropical areas of the world. It is utilized as a decorative plant as well as for herbal medication. Diagrammatic Representation of *Aloe vera* is given in figure 1. Its products are available in the form of spray, cream, gel, lotion and capsule and liquid [1].

MEDICINAL IMPORTANCE

Aloe vera is one of the only known natural vegetarian sources of Vitamin B₁₂,

and it contains many minerals vital to the growth process and healthy function of all the body's systems. *Aloe vera* contains protein, calcium, magnesium, zinc, vitamins A, B₁₂ C, E and essential fatty acids. Numerous studies worldwide indicate that *Aloe vera* is a general tonic for the immune system, helping it to fight illness of all kinds. Various research studies are underway to explore the potential of *Aloe vera* components to boost immunity and combat the HIV virus, and to treat certain types of cancer particularly leukemia. When *Aloe vera* is used externally, almost no adverse effects are seen. Oral use of *Aloe vera* may cause colic and diarrhea. have been reported with oral use of aloe vera. The purgative property of the plant may reduce the absorption of other drugs.



Figure 1: Diagrammatic Representation of *Aloe vera*

Aloe vera is widely used in medicines. The use of *Aloe vera* in the treatment of different diseases is given here briefly.

Constipation

Aloe is very useful for destroying the micro-organisms in the last part of large intestine and have the capability to overcome the problem of constipation. Juice of *Aloe vera* may also be used in treating inflammatory bowel disease [2,3].

Burns

Aloe vera plant has been implied for years to treat burns holistically. For the treatment of burns, the pure gel, either from the fresh leaves of a healthy plant or from a trustworthy company may be used. Keep in mind that *Aloe vera* liniment is not used as the liniments have been formulated to create heat that may again cause problem to the burn [4,5]. Its liniment is used for muscle problems.

Genital Herpes

Extract of *Aloe vera* is used for the treatment of genital herpes [6,7]. *Aloe vera* juice mixed with fruit juice may be taken daily for chronic viral infections.

Seborrheic Dermatitis (Dandruff)

Aloe vera lotion is used for treating seborrheic dermatitis. It is also an excellent treatment for the hair care. *Aloe vera* hair conditioners and shampoos are

used widely for the purpose [8,9].

Osteoarthritis

Aloe vera is used topically for osteoarthritis, and sunburns. Pain in the joints and muscles due to arthritis may be treated by using *Aloe vera* sprays or gels [10,11].

Lungs Cancer

Aloe vera is the only food from plant sources that protect lung cancer [12,13]. The aloe can help to prolong time of survival and to stimulate the immune system of the patient of cancer [14,15].

Diabetes

It also decreases blood sugar level in hyperglycemic patients. For this purpose, its juice is taken twice daily [16,17]. *Aloe vera* has also been proven effective for use with diabetes which pregnant women are often plagued with; taking aloe vera daily can help to prevent gestational diabetes.

Ulcer and Heartburn

Juice from *Aloe vera* is very effective for ulcers, heartburn and other digestive disorders. Recent research has identified that *Aloe vera* may also be used for children [18,19].

Anti-inflammatory Agent

The orally given juice of *Aloe vera*

may be used for inflammation. It may also enhance white blood cell activity and promote production of interferon-specific immunoactive proteins released by blood cells in response to viral infections [20,21].

Obesity

Aloe vera is very useful to overcome the problem of obesity. *Aloe vera* breaks down the fat globules so that triglycerides, total cholesterol and blood fat lipid levels are decreased resulting in decrease in body weight [22,23].

Asthma and Epilepsy

Asthma and epilepsy may be treated with *Aloe vera* gel. *Aloe vera* in form of inhaler may be used as a decongestant. Sinus conditions may also be controlled by using *Aloe vera* orally [24,25].

HIV Infection

Acemannan, a component of *Aloe vera* gel, has been shown to have immune-stimulating and anti-viral activities. An extract of mannose from *Aloe* inhibit HIV. HIV were treated in vitro and they showed reduced reproduction by as much as 30% [26,27].

COSMETOLOGICAL IMPORTANCE

Cosmetology is the study of cosmetics and their uses and cosmetics are the preparations externally applied to change or enhance the beauty of skin, hair, nails, lips, and eyes. *Aloe vera* has been used since ancient times for healing infection and burns. However with the improvement in cosmetology, it has been proved that *Aloe vera* is a very important component of cosmetics. It contains almost 20 amino acids, minerals like calcium, magnesium and sodium in sufficient quantities, enzymes, vitamins, polysaccharides, nitrogen and other components that make it a miracle beauty herb. Some of the most important applications of *Aloe vera* for purpose of

Cosmetology are being explained here briefly.

Pigmentation

Melanin is a pigment which is responsible for the color of the human skin. Hyper pigmentation is a situation in which large amount of melanin is synthesized. This generally happens due to excess exposure of the skin to the sun. In reaction to UV rays in sunbeams, the skin cells called melanocytes initiate to synthesize melanin. This increased synthesis of melanin is responsible for the emergence of darkened patches on the skin. *Aloe vera* has the property of diminishing the pigmentation and dark spots on the face [28,29].

Skin Eruption

Aloe vera containing creams are beneficial for skin eruptions. *Aloe vera* gels have been proved to be the best remedy for burns and wounds. Actually, cellular regeneration, anti-bacterial and anti-fungal activities of *Aloe vera* make it useful for skin eruption [30,31].

Scalp and other Skin Problems

Aloe vera is very valuable for skin disorders. It may also be used for the treatment of scalp, stings, sprains, sunburns, eczema, sore muscles, arthritis, scrapes, cold sores, scalds, abrasions, psoriasis, bruises, etc [32,33].

Itching and Blisters

Aloe vera also provides relief from itching and also helps to treat blisters. *Aloe* contains vitamin B₁, B₂, B₆, B₁₂ and vitamin C that provide soothing and pleasing sensation to skin [34,35].

Skin Aging

Aloe vera initiates the synthesis of elastin as well as collagen. These proteins are essential for preventing the aging of the skin [36,37].

Acne

Aloe vera helps to eradicate acne

scars by performing as an immune booster and an anti-inflammatory agent. Beauty products composed of *Aloe vera* may diminish the rigorousness of acne. It is also composed of the chemical ingredients which have the property to save the skin to initiate the acne [38,39].

Freshness

Aloe vera impart the sensation freshness. It helps in increasing distribution of blood therefore providing easier oxygen exchange among the cells, hence giving them nourishment [40].

Sun-burns

Aloe Vera has an outstanding possession in diminishing the hurting of sunburn. For this purpose, it is rubbed directly on skin. The fresh fluid from the plant or *Aloe vera* containing after-sun creams may be used for sun-burns [41].

Moisturizing Agent

Aloe vera may also be used for softening and moisturizing the skin. There are so many products available in the market containing *Aloe vera* which may be used post-showering to obtain the skin in super soft shape. *Aloe vera* gel, cream or lotion applied on the face forms a delicious cover that helps to shield the skin from dust and other natural elements which may be injurious to the skin [42,43].

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