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## **ALOE VERA: A MIRACLE PLANT**

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# Aloe Vera: A Miracle Plant

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**Abstract – Aloe vera plant has been known as a miracle plant for centuries, owing to its health, beauty and medicinal properties. The term Aloe vera is derived from the Arabic word “Alloeh” which means “bitter shining substance,” while “vera” in Latin means “true”. The Egyptians called Aloe “the plant of immortality”. It is also called Quargandal, Ghrithkumari, Gheekvar, katraazhai or kumari.**

**Key Words – Aloe Plant, Modern World, Plant, the plant of immortality**

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## HISTORY:

The Aloe plant and its products have played a pivotal role in medicine and health, dating as far back as the 4th century B.C. It has been suggested that Egyptian Queens Nefertiti and Queen Cleopatra VII used aloe vera as a part of their regular beauty regimes. Supposedly Alexander the Great in 333 B.C. captured the Island of Socotra in the Indian Ocean for Aloe supplies, to treat his wounded soldiers. Aloe has long been known in history to be used as a strong laxative for chronic constipation, as mentioned in Egyptian Papyrus. (Karkala et al)

## EMERGENCE IN MODERN WORLD:

It is no surprise that the Aloe vera plant and its products continue to enjoy a prime spot in health and beauty even in the modern world.

Today, Aloe Vera is referred to as green oil in the industry. Aloe vera or its derivatives are the main ingredients in products in the food, medical, pharmaceutical, cosmetic, nursing and other industries. The global Aloe Vera product is estimated at \$ 125 million and the value of its finished products is over \$ 110 billion.

Aloe vera is a succulent plant species belonging the genus Aloe. It is an evergreen perennial, growing in tropical, semi-tropical, and arid climates across the world

It is a very short-stemmed plant, which grows upto 60–100 cm tall. It has thick and fleshy green leaves, with serrated margins. It flowers in summers.

It was considered to be native to the south-east countries but today is widely cultivated around the world. It was originally cultivated for agricultural and medicinal purposes. There is large-scale commercial production of Aloe vera in Australia, Cuba, China,

Mexico, India, Spain, Kenya, Tanzania, and South Africa and the USA. In India, it is grown in Tamil Nadu, Rajasthan, Gujarat, Andhra Pradesh and Maharashtra.

It can be grown successfully indoors as a potted plant. It is widely appreciated for its decorative/ornamental appeal, due to its interesting flowers and unusual form. It is also suitable for rockeries and low water gardens. It can tolerate frost, snow and most plant insects.

The fleshy leaf, which is the primary source of all products, is composed of three layers: (Surjushe et. al.)

- 1) An inner clear gel- composed of 99% water and the remaining is amino acids, lipids, sterols and vitamins.
- 2) The middle layer- composed of latex, a bitter yellow sap, which contains anthraquinones and glycosides.
- 3) The outer thick layer - the rind which synthesizes carbohydrates and proteins. It also contains xylem and phloem.

Aloe vera contains about 75 active constituents, which include a wide range of vitamins, minerals, sugars, enzymes, salicylic acid, fatty acids and amino acids (Sahu et al)

It is normally safe to use aloe vera directly from the plant, but is also sold in the form of gels and extracts. It is also available as capsules, taken orally in order to promote health and well-being.

With the advent of social media, aloe has gained popularity to the extent that it is now common to add it to smoothies, drinks and food. It is hailed as an alternative to sugar laden drinks and synthetic fruit

juices that can negatively affect health. Aloe vera juice is naturally low in sugar and calories and can thus be consumed directly or added to other juices and smoothies.

The clear gel and yellow latex are used majorly to manufacture commercial products. Aloe gel typically is the base for topical ointments for skin conditions like burns, wounds, psoriasis, cold sores, frostbite, rashes, and dry skin. Due to its soothing, cooling and moisturizing properties, it can be used effectively to alleviate pain from burns. Apart from burn wound healing, it can be used in sunburns.

It is also an ingredient in many consumer products like beverages, lotions, cosmetics, soaps, ointments and topical gels. It has been shown in certain cases to relieve symptoms of rashes, sunburn, etc. This healing property of aloe maybe attributed to the fact that the aloe gel contains a mixture of glucosides, called 'aloin', which forms the active constituent to promote healing.

The aloe gel is frequently found in cosmetics, which promote it as a moisturizer and anti-irritant. Cosmetic companies also add Aloe vera derivatives to products like makeup, tissues, wipes, moisturizers, soaps, sunscreens, shaving creams, or shampoos. A study by Tanaka et al, confirms that daily oral *Aloe* sterol intake significantly reduced facial wrinkles in women over the age of 40 years. The *Aloe* sterols stimulate collagen and hyaluronic acid production in the cells to help the skin fight signs of ageing.

Aloe vera containing creams and gels have also been found to be significantly more effective in controlling mild to moderate acne, compared to the use of acne medication exclusively.

Aloe vera is effective in retaining skin moisture and maintaining integrity of the skin as it contains amino acids, zinc, mucopolysaccharides and a large proportion of water. According to a study by Dat et al, in terms of speed and quality of wound healing, aloe vera was found to be more effective and less expensive as opposed to conventional treatments. It was further suggested to use aloe vera along with other treatments for improved wound healing. (Hashemi et al)

Another study supports the view that Aloe vera gel could be effective in wound infections at various concentrations and its use at optimum concentrations may help in better management of many microbial diseases. (Goudarzi et. al.)

Aloe latex is used in manufacture of products used for relief from constipation.

A digestive disorder, Gastroesophageal reflux disease (GERD) often results in heartburn. Consuming small amounts of aloe gel with meals may reduce the severity of GERD, while also easing other digestion-related problems.

Aloe gel has also been known to help keep fruits and vegetables stay fresh, and extend their shelf life.

Toothpaste and mouthwash containing aloe vera are known for improvement in oral hygiene and reducing plaque. It may be due to the presence of vitamin C, which helps to provide relief from swollen/ bleeding gums.

Aloe vera is an excellent source of vitamin C (9.1 g per cup of aloe vera juice) and other essential vitamins like vitamin A (beta carotene), vitamin E, vitamin B12, folic acid (vitamin B) and choline. The plant also contains minerals, calcium, chromium, copper, selenium, magnesium, manganese, potassium, sodium, and zinc.

Studies have been conducted to look into the role of aloe compound-emodin, in fighting breast cancer but more studies are needed to comment on the same.

It is generally considered safe to use aloe vera for minor skin problems but it should not be used on open cuts/ wounds. Skin irritations and allergic reactions may occur in some cases. It should not be taken internally by pregnant, lactating women or children under 12 years of age.

Aloe vera should not be taken if one is consuming medication for Crohn's disease, colitis, etc.

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