



## A Review on Brief Study of Aloe Barbadensis miller.

Miss. Sayali Hande

Dnyanvilas college of pharmacy dudulgaon, pune-411205

### ABSTRACT

The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations. Lotions are liquid preparations meant for external application without friction. They're applied directly to skin with the help of some absorbent material, such as, cotton wool or gauze soaked in it. Formulation of aloe vera lotion, formulation of menthol lotion and aloe vera lotion with arrow root powder is prepared using different composition. These formulations were evaluated with different evaluation parameters like Homogeneity, Appearance, after feel, Acid Value, pH measurement, Irritancy test, Viscosity, Accelerated stability testing, Subjective Properties, Spreadability, Type of emulsion test, Sensitivity Test, Washability Test, statistical analysis, In vitro permeation studies, Test for thermal stability, Determination of total fatty matter, Determination of water content, Patch test. The objective of this review is to compile the information of different herbal formulations of lotion and its evaluation. Herbal lotion formulations studied by many researchers and this information can be used by many researchers for novel herbal cosmetic formulations with new herbs.

Keywords: Herbal Cosmetic, Herbal Lotion, Aloe Vera, Menthol, Arrow Root Powder.

### Introduction

Aloe Vera may be an exceptionally compelling plant in numerous other plants, it gives so numerous restorative exercises and pharmacological impacts for human creatures and creature. Aloe Vera also is utilized for restorative application completely different framework of our societies. (1). Aloe Vera could be a tough, lasting, tropical, drought-resistant, juicy plant. The aloe Vera has delivered the gigantic conventional part in endemic framework of rules of pharmaceutical such as the Siddha, Unani, Ayurveda and Homeopathy. (2) Aloe Vera may be a standard, dry spell debate, sticky plant. The aloe title is starts

from the Arabic" Alloeh" or Hebrew" Halal" implies heightening Sparkly master. It has conveyed a considerable routine portion in inborn course of action of pharmaceutical system like Ayurveda, Siddha, Unani and Homoeopathy. (3)

Aloe barbadensis process administrator could be a semi tropical plant is one of the 250 sorts of Aloe Vera. Aloe Vera could be a juicy plant species of the class Aloe. An evergreen lasting, it begins from the Middle Eastern Promontory but develops wild in tropical climates around the world and is developed for rural and therapeutic employments.

The species is additionally utilized for enriching purposes and develops effectively inside as a

pruned plant. (4). Directly, the utilize of aloe Vera has picked up notoriety since of homegrown development started by naturopaths, yoggurus, elective medication promoters and encompassing healers. The industry estimate for aloe crude fabric is assessed to be about\$ 125 million dollars. (5). The volume of the industry for wrapped up items containing aloe Vera is affirmed to be around\$ 110 billion dollars. 2000 a long time prior, the Greek researchers respected Aloe Vera as the inclusive nostrum. The Egyptians called Aloe “the plant of immortality” Nowadays, the Aloe Vera plant has been utilized for different purposes in dermatology. (6), (7), (8), (9), (10). Numerous reports of Aloe Vera gel features a profitable activity on the harm recovering in both normal and diabetic rats.

The most common wide utilize of Aloe Vera as a cure to upgrade the action of wound recuperating and other restorative activities. Its instrument in recuperating of wounds has not been examined in detail. The Aloe vera is most vital and valuable plant within the homegrown drugs fabricating and other detailing its gives valuable and profitable compounds.

## Description

Aloe Vera could be a stem less or exceptionally shortstemmed plant developing to 60 – 100 cm (24 – 39 in) tall, spreading by offsets. The clears out are thick and plump, green to grey-green, with a few assortments appearing white bits on their upper and lower stem surfaces. (11). The edge of the leaf is serrated and has little white teeth. The blooms are delivered in summer on a spike up to 90 cm (35 in) tall, each bloom being pendulous, with a yellow tubular corolla 2 – 3 cm (0.8 – 1.2 in)

long. (11) (12). Like other Aloe species, Aloe Vera shapes arbuscular mycorrhiza, a beneficial interaction that permits the plant way better get to mineral supplements in soil. (13).

## Botany Of Aloe Vera

The cactus-like juicy aloe Vera has a place to the sort of the liliaceous plants. The plant is eitherstem-less or exceptionally short- stemmed (stem up to 25 cm long) with an normal approximately 20 takes off in a straight, thick rosette. The clears out develop to up to 40 – 50 cm long and 6 – 7 cm wide. The takes off are or maybe thick, beefy, water holding; concave on the beat side, grey-green frequently ruddy and youthful plants are frequently dotted. The underside of the leaf is curved with a pale pink edge that is dressed with 2 mm long prickly teeth dispersed at each 10 – 20 mm. One leaf can weigh as much as 1.5 to 2 kg.

The juicy leaf of the aloe is an adjustment to the exceptionally dry conditions of its living space. The roots of the aloe are generally brief and lay flat implanted within the earth. (14).

## Plant





The

botanical title of Aloe Vera is *Aloe barbadensis* mill operator. It has a place to Asphodelaceae (Liliaceae) family, and may be a shrubby or arborescent, perpetual, xerophytic, juicy, pea-green colour plant. It develops primarily within the dry locales of Africa, Asia, Europe and America. In India, it's found in Rajasthan, Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu.

## Leaves



Aloe Vera takes off are lance- shaped with serrated edges. the clear out are:

1. Beefy thick.
2. Green or grey-greenish.
3. Waxy coated on the surface.
4. Value juicy, meaning they can keep their shape due to the moist.

The clears out contain water (the gel) and are float on the beat side, and adjusted at the foot side. In youthful clears out of Aloe Vera spots are pale green to white. When the Aloe Vera develops up, the spots vanish. Be that as it may, a few species

won't free their spots, which is due to hereditary factors. (22).

## Taxonomy

- Kingdom- Plantae
- Order- Asparagales
- Division- Spermatophyte
- Subdivision- Angiospermae
- Class- Monocotyledoneae
- Genus- Aloe
- Species- Barbadensis Mill [15]

The species was to begin with depicted by Carl Linnaeus in 1753 as *Aloe perfoliata* var. *Vera*, (16) and was portrayed once more in 1768 by Nicolas Laurens Burman as *Aloe Vera* in *Greenery Indicia* on 6 April and by Philip Mill operator as *Aloe barbadensis* a few ten days after Burman within the *Gardener's Dictionary*. (17)

## Synonyms

*Aloe*, *Musabbar*, *Kumari*

## Biological Source

*Aloe* is the dried latex of leaves of various species of Aloes, namely:

*Aloe barbadensis* Miller (or *Curacao Aloe*);  
*Aloe ferox* Miller (or *Cape Aloe*);

*Aloe perry* Baker (or *So Africana* Miller) and

*Aloe spicata* Baker or

All these species belong to the family Liliaceae.[18]

*Aloe Vera* is Comprising of the new juice collected by entry point, from the bases of the clears out of distinctive species of aloe. *Aloe perryi*, or *Aloe Barbadensis* Mil and *Aloe ferox*.[19]

## Family

It's belonging to the Liliaceae family.

Aloe perryi Bread cook is found in Socotra and Zanzibar islands and in there neighbouring ranges and so the aloes get from this species is known as Socotrine or Zanzibar aloe. Aloe Vera Linn is something else called Aloe vulgarise Lamarek, or Aloe barbadensis Mil. Aloe officinalis Forskal. (20)

## Morphology

Taste: - Bitter

Odour: - None

Size & Shape: - Plant growing to 60-100cm in lanceshaped with elongated.

Strands Colour: - Leaves are green to grey- green flower.

Flower: - Yellow tubular in 25-35cm in a slender loose stamens.

Root: - Root fibbers that can reach 30-40 cm in length.[21]

## Active Components with Its Properties

Name of the Active component	Active components present in Aloe vera with properties
Vitamins	Vitamin A (beta-carotene), C and E, - antioxidants. It also contains vitamin B1, B2, B6 & B12, folic acid, and choline. *Antioxidants protect the body by neutralizing free radicals.
Enzymes	Aliaase, alkaline phosphatase, amylase, oxidase, bradykinase, carboxypeptidase, catalase, cellulase, lipase, cytochrome, and peroxidase. *Bradykinase helps to reduce excessive inflammation when applied to the skin topically, while the other enzymes help in the breakdown of sugars, proteins and fats.
Minerals	Calcium, chromium, copper, selenium, magnesium, manganese, potassium, sodium and zinc. *Some of the minerals are essential for the proper functioning of various enzyme systems in different metabolic pathways and few acts as antioxidants.
Sugars	Monosaccharides (glucose and fructose) and polysaccharides (glucomannans/polymannose). *The most prominent monosaccharide is mannose-6-phosphate, and the most common polysaccharides are called glucomannans [beta-(1,4)-acetylated mannan]. *Acemannan, a prominent glucomannan has also been found. Recently, a glycoprotein with anti allergic properties, called alprogen and novel anti-inflammatory compound, C-glycosyl chromone, has been isolated from Aloe vera gel <sup>[21]</sup> .
Organic acids	Sorbate, salicylic acid, uric acid *Salicylic acid possesses anti-inflammatory and antibacterial properties.
Anthraquinones	Aloin, barbaloin, isobarbaloin, arbutol, aloetic acid, aloin-emodin, ester of cinnamic acid, resiniferol, chrysanthemic acid and emodin. * Acts as laxatives. *Aloin and emodin act as analgesics, antibacterials and antivirals.

Aloe Vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars,

lignin, saponins, salicylic acids and amino acids. [23-24]

**Vitamins:** It contains vitamins A (beta-carotene), C and E, which are cancer prevention agents. It moreover contains vitamin B12, folic corrosive, and choline. Antioxidant neutralizes free radicals.

**Enzymes:** It contains 8 chemicals aliase, antacid phosphatase, amylase, bradykinase, carboxypeptidase, catalase, cellulase, lipase, and peroxidase. Bradykinase makes a difference to diminish over the top irritation when connected to the skin topically, whereas others offer assistance within the breakdown of sugars and fats.

**Minerals:** It gives calcium, chromium, copper, selenium, magnesium, manganese, potassium, sodium and zinc. They're fundamental for the correct functioning of different chemical frameworks in numerous metabolic pathways and many are antioxidants.

**Sugars:** It gives monosaccharide's (glucose and fructose) and polysaccharides (glucomannans polymannose). These are determined from the mucilage layer of the plant and are known as mucopolysaccharides. The foremost conspicuous monosaccharide is mannose-6-phosphate, and the foremost common polysaccharides are called glucomannans (beta-(1,4)- acetylated mannan). Acemannan, unmistakable glucomannan has too been found. As of late, a glycoprotein with anti allergic properties, called alprogen and novel antiinflammatory compound, C- glucosyl chromone, has been confined from Aloe Vera gel. (25,26)

## Chemical Constituents:

The foremost basic energetic boss constituents of Aloe Vera are the three isomeric of Alones, Barboloin and Isobarbaloin, which constitute the purported crystalline Aalin, show within the pharmaceutical at from 10 to 30 constituent are unclear Aaloin, sap, emodin and Aloe- emodin. The vital bunch, complex sugars (among which acemannan rises) are interior the takes off gel and have an insusceptible empowering action. Following are the anthraquinones, contained within the fringe part of the skin, with a strong laxative action. in conclusion are a couple of substances with a wide cluster of exercises, for case, minerals, vitamins, vital, unnecessary and semi-vital amino acids, normal acids, phospholipids, proteins, lignin and saponins.

## Pharmacological Activity of Aloe Vera

A number of investigations have attempted to relate the chemical constituents in the gel to specific biological effects.

### Wound-healing effects:

Different mechanisms have been proposed for the wound- healing effects of aloe gel, which include keeping the wound moist, increase epithelial cell migration, more rapid maturation of collagen and reduction in inflammation.

### Anti-Tumour Activity:

Different glycoproteins are available in Aloe Vera. in this manner keeping the arrangement of possibly disease starting benzopyrene- DNA adducts in the provoking of glutathione s-transferase and an impediment of the tumor-

promoting effects of phorbol myristic acidic corrosive deduction has in like manner been represented which possible favorable circumstances of using aloe gel as a piece of cancer.

Aloe gel: The gel or mucilage gotten from the tissue of the leaf is 99 Water at pH4.5. The constituent polysaccharide glucomannan is a successful human skin moisturizer, which accounts for its utilize in numerous cosmetics.

Aloe Vera is best known for its relieving and mending impacts on burn and other injuries. Aloe Vera when connected to a wound supplements both the rate of crack check and

the malleable quality of the wound by means of the expansion of cells. It does so by quickening the stream of blood towards the injured region. Aloe is the leading wound dressing ever discovered.

### Cultivation and collection:

There are more than 250 species of aloe develop around the over in world. Be that because it may, fair two species are created nowadays mechanically, with Aloe barbadensis Mill operator and Aloe aborescens being the foremost prevalent. The Aloe Vera plant is developed in warm tropical domains and cannot survive setting temperatures. It's an evergreen never- ending creating to 0.8 m by 1 m at a moderate rate. The plants slant toward light (sandy) and medium (loamy) soil requires all around drained soil can create in healthfully destitute soil. The plant slants toward destructive,

nonpartisan and fundamental (fundamental) soil. It cannot create in shade. It requires dry or clammy soil and can persevere dry spell. They're xerophytic plant. It can be multiplied by seed. Youthful equalization are planted within the soil after the whirling season in lines organized at a separation of 60m. In the moment year takes off are gathered by nearby individuals by ensuring their hands in light of the prickly strategy for takes off. The clears out are cut near to the base, kept inside light fuel tins and taken them to a central spot for the course of action of aloe.

### Uses:

Aloe Vera is anthelmintic, cathartic, carminative, deobstuent, depurative, diuretic, stomachic, and emmenagogue. Juice is utilized as a portion of sound skin medicine, dyspepsia, amenorrhea, smolders, colic, hyperdenosis, hepatopathy, splenopathy, hindrance, run, menorrhea, stomach, tumors, dropsy carbunles, sciatica, lumbago and tooting. Aloe Vera gel is exceptionally valuable in ulcerative colitis and weight ulcers.

- ❖ Mild to moderate burns.
- ❖ Erythema.
- ❖ Genital herpes.
- ❖ Seborrheic dermatitis.
- ❖ Psoriasis vulgaris.
- ❖ Skin moisturizer.
- ❖ Type 2 diabetes.
- ❖ Oral lichen planus infections.
- ❖ Angina pectoris.

### Conclusion:

I was examined approximately the as well much data of homegrown plant i.e Aloe Vera. It could be a particular plant, appear different sorts of exercises in therapeutic time. so it play an imperative part in pharmaceutical field. Aloe Vera and its arrangement have been broadly utilized as pharmaceutical since old times. Different investigates have been conducted to demonstrate the viability of aloe Vera indifferent wellbeing issues. The dynamic

fixing covered up in its juicy clears out have the control to alleviate human life and wellbeing in a particular way. Aloe Vera as the ponder plant different from being a clean, ant-inflammatory operator, makes a difference in soothing like cancer and diabetes, and being a restorative field.

### Refrences:

- [1] Himes S, Sharma S, Mishra K, Singhai A.K and Chaubey N; Qualitative & Quantitative profile of alone isolated from Aloe Vera. International Research Journal of Pharmacy, 2011; 2(9):121-122.
- [2] Baby J, Justin SR. Pharmacognostic and phytochemical properties of Aloe Vera linn –an overview. International journal of pharmaceutical sciences review and research 2010; 4:106.

- [3] Benefits of Aloe Vera Plant, Aloe Vera Juice & Aloe Vera Products. Knowledge Base Script.2009; 1-7. Available from: www.knowledgepublisher.com. Das N, Chattopadhyay RN. Commercial cultivation of Aloe. Natural product radiance 2004; 3:85-87.
- [4] Perkins, Cyndi. "Is Aloe a Tropical Plant?". SFgate.com. Retrieved 13 February 2016.
- [5] Anonymous (2006) For Aloe Vera as semi finish products like gel, powder and finish products like aloe Vera drink or fizzy tablets. Technology transfer and project management network, Enzyme consulting of biotechnology. <http://www.ensymm.com/pdf/ensymmProjectstudyAloeVeraproduction.pdf>. Accessed on 5 October 2010.
- [6] Davis RH, Kabbani JM, Maro NP. Aloe Vera and wound healing. J Am Podiatric Med Assoc 1987; 77:165-9.
- [7] Visuthikosol V, Chowchuen B, Sukwanarat Y, Sriurairatana S, Boonpucknavig V. Effect of Aloe Vera gel to healing of burn wound- a clinical and histologic study. J Med Assoc Thai 1995; 78:403-9.
- [8] Miller MB, Koltai PJ. Treatment of experimental frostbite with pentoxifylline and aloe Vera cream. Arch Otolaryngology Head Neck Surge 1995; 121:678-80.
- [9] Heggors JP, Pelley RP, Robson MC. Beneficial effects of Aloe in wound healing. Phytotherapy Res 1993; 7: S48- 52.
- [10] Unani Pharmacopeia of India. Part-1 vol. 1. New Delhi: Department of Ayush; 2007 p.82-83.
- [11] Yates A. (2002) Yates Garden Guide. Harper Collins Australia
- [12] Random House Australia Botanica's Pocket Gardening Encyclopedia for Australian Gardeners Random House Publishers, Australia
- [13] Gong M, Wang F, Chen Y (2002). "[Study on application of arbuscular-mycorrhizas in growing seedings of Aloe Vera]". Zhong Yao CAI (in Chinese). 25 (1): 1–3. PMID 12583231
- [14] <https://www.aloe-medical-group.com/en/aloevera/botany.html>
- [15] Nadkarni KM. Indian plants and Drugs. New Delhi; srishti book Distributors, 2004 p.28-29PMid:15129907.
- [16] Linnaeus, C. (1753). Species plantarum, exhibentes plants rite cognitatas, ad genera relatas, cum differentiis specificis, nominibus trivialibus, synonymies selectees, loci's natalibus, secundum systema sexual digests Vol. 2 pp. [i], 561–1200, [1–30, index], [i, err.]. Holmiae [Stockholm]: Impensis Laurentii Salvii.

[17] Newton LE (1979). "In defense of the name Aloe Vera". The Cactus and Succulent Journal of Great Britain. 41: 29–30

[18][www.epharmacognosy.com/2012/03/aloesh.htm](http://www.epharmacognosy.com/2012/03/aloesh.htm)

[19] Davis, R. H., Donato, J. J., Hartman, G. M., and Haas, R. C. Anti-inflammatory and wound healing activity of a growth substance in Aloe Vera. J Am Podiatr. Med Assoc 1994; 84(2):77-81.

[20] Pecere, T., Sarinella, F., Salata, C., Gatto, B., Bet, A., Della, Vecchia F., Diaspro, A., Carli, M., Palumbo, M., and Palu, G. Involvement of p53 in specific anti-neuroectodermal tumor activity of aloe-emodin. Int J Cancer 10-10-2003; 106(6):836-847.

