



## **Formulation and Evaluation of Aloe Vera Face Wash**

***Ms. Darshana Yashwant Pawar<sup>1</sup>, Ms. Apsara Rajjak Shaikh<sup>2</sup>, Mr. Devesh Nitin Bahiram<sup>3</sup>, Ms. Sulochana Anil Sabale<sup>4</sup>, Mr. Saeed Malik<sup>5</sup>, Mr. Habiburrehman<sup>6</sup>, Dr. Swapnil Dilip Deo<sup>7</sup>.***

<sup>1,2,3,4</sup>Student, Dr. Uttamrao Mahajan College of B. Pharmacy, India.

<sup>5,6,7</sup>Guide, Dr. Uttamrao Mahajan of B. Pharmacy, India.

### **ABSTRACT :**

Aloe vera plant has been known and used for its health, beauty, medicinal and skin care properties for centuries. There are more than 300 species of aloe vera, growing mostly in dry regions of Africa, Asia, Europe and America. The botanical name of aloe vera is *Aloe barbadensis miller*. It belongs to the Asphodelaceae (lily family) family and is a tree or shrub, perennial, xerophytic, succulent, pea green plant. The plant has triangular fleshy leaves with serrated edges, yellow tubular flowers and fruits containing many seeds. Aloe vera has 75 active components: vitamins, enzymes, minerals, sugar, lignin, saponins, salicylic acid and amino acids. Many studies have been conducted to evaluate the different properties of Aloe Vera such as anti-inflammatory activity, anti-diabetic, anti-high cholesterol, antioxidant effect, antibacterial activation, antiviral effect, anti-inflammatory, anti-acne, heart disease. Toner, Nutraceuticals, moisturizers, anti-inflammatories, skin protection against UV-A and UV-B rays and wound healing.[1]

**Keyword:** Aloe Vera, peppermint oil, glycerin, face wash etc.

### **INTRODUCTION:**

Facial skin is an important part of the human body and reflects human health. Consisting of amino acids, lipids, carbohydrates and other substances, the skin needs a balanced diet to remain firm, shiny and healthy. In ancient times, women gave importance to skin care. They started dressing themselves because they wanted to show off their beauty and become more beautiful. Even today, especially in rural and mountainous regions, people still prefer plants such as neem, aloe vera, tulsi and orange rose as cosmetic ingredients. Herbal cosmetics are products used to cleanse and beautify the skin.

The main advantage of using cosmetics is that they are pure and have no side effects on the human body. Due to overexposure to the sun

Acne vulgaris is a common skin disease. It affects almost everyone at least once in their life. Acne formation peaks in young people, but many men and women between the ages of 20 and 30 are also affected by the disease.

Acne can be classified as comedonal acne, infectious acne, pustular acne, cystic acne and nodular acne. Acne is non-inflammatory and is divided into two types: whiteheads and blackheads. Whiteheads (closed comedones) appear as new or white bumps, while blackheads (open comedones) appear as open pores containing dark pigment composed of melanin, sebum, and follicular cells. Papules appear as red, hard, raised lesions usually less than 5 mm in diameter.

Pustules are spots on the skin containing purulent material. Cysts and nodules are solid, raised lesions that involve the deep dermis and subcutaneous tissue. Cysts are less than 5mm in diameter whereas nodules exceed 5mm. [2]

### **HISTORY:**

Aloe Vera has been found and described in writings from many different cultures, dating back to Greek, Egyptian and Roman times.

Information is also found in manuscripts from early Indian and Chinese cultures. It is one of the most used and sought-after plants in history. Many ancient texts, including the Bible, mention the use of aloe vera.

God told us to crucify Jesus and wrap his body with aloe vera and myrrh. We see that at every stage of history where aloe vera emerged, there are many testimonies of its great benefits.

Little is known about the evolutionary history of the Aloe genus. Aloe vera itself is particularly mysterious; For economic reasons, his ancestral home was shifted around the world causing controversy. Sudan or the Arabian Peninsula has been suggested to have a similar type of aloe native to this region, although distant locations such as the Canary Islands have also been suggested. An international consortium of scientists from the UK, Denmark, Norway,

Australia, Ethiopia and South Africa, led by Olwen Grace of Kew Gardens in London and Nine Ronsted of the University of Copenhagen, sought to solve the problem.[3]

## **BIOLOGICAL ACTIVITY OF ALOE VERA :**

### **ANTIMICROBIAL :**

Aloe vera contains 6 preservatives: lupeol, salicylic acid, urea nitrogen, cinnamic acid, phenols and sulfur.

They have a preventive effect against fungi, bacteria and viruses.

Acetyl mannan can be used alone or in combination with azidothymidine. (AZT) and acyclovir prevent the reproduction of herpes and AIDS[4]

Treatment of Trichophyton-infected guinea pig feet with antifungal aloe vera extract resulted in 70% growth inhibition compared to untreated animals.[5].

Recent studies have shown that polysaccharides can prevent benzopyrene from binding to primary rat liver cells, thus preventing the cells from forming carcinogenic benzopyrene-

DNA adducts. Induction of glutathione transferase and inhibition of the anti-tumor effects of phorbol myristate have also been reported; This suggests that the use of aloe vera gel may be beneficial in cancer treatment.

[6,7,8]

### **SKIN AND MUCUS MEMBRANES :**

In humans, aloe vera has been reported to speed the healing of deep scrapes, frostbite, conjunctival burns, and even mouth ulcers.[9,10,11]

Only one study found an adverse effect; that is, secondary wounds treated with aloe vera took longer to heal than control wounds.[12]

A study of 27 adults with partial burns found that those treated with aloe vera healed an average of six days faster than those treated with petroleum jelly gauze.[13]

### **ALOE VERA :**



### **PLANT OF ALOE VERA :**

**Scientific name:-** Aloe vera **Family:-** Asphodelaceae **Kingdom:-** Plantae

**Order:-** Asparagales

**Genus :** Aloe

### **USES OF ALOEVERA:**

It has antibacterial and antifungal properties and can help treat everything from constipation to diabetes. The green cactus plant in your garden is not only a plant of legend, but also the key to a million-dollar business such as cosmetics, juice, food.

Aloe vera or aloe vera products can be used in winter and summer and are suitable for people with all skin types. Aloe vera can heal skin epithelial cells, so dermatologists recommend aloe vera for removing tan, sunburn. Aloe vera is widely used in beauty products, and for good reason.

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#### **ALOE VERA FOR DRY SKIN :**

Take some aloe vera, some turmeric, a teaspoon of honey, a teaspoon of milk and a few drops of rose water. Stir the mixture until it reaches a paste consistency. Apply and leave for about 20 minutes.

#### **ALOE VERA FOR SENSITIVE SKIN :**

Apply and leave for about 20 minutes, then rinse.

#### **ALOE VERA FOR ACNE:**

Take some aloe vera gel and mix walnuts with flour and honey. The healing power of aloe vera combines with the antioxidants in honey to give you smooth and clean skin.[14]

#### **MEDICINAL USES:**

Scientific evidence for the cosmetic and therapeutic benefits of aloe vera is limited and, when available, often contradictory. Despite this, the cosmetic industry and other pharmaceutical products often make claims regarding the soothing, moisturizing and healing properties of aloe vera, especially through online advertisements.

Aloe vera gel is used as an ingredient in cosmetic products, yogurt, beverages and some desserts.

Aloe vera gel is used to drink and relieve digestive problems such as heart burn and indigestion.

Other uses of aloe vera extract include diluting sperm for sheep production and as a preservative for fresh food and water preservation on small farms. [15]

#### **VITAMINS:**

Aloe vera contains many vitamins such as A, C, E, B1, B2, B3 (nicotinic acid), B6, choline, folic acid, alpha-tocopherol and beta-carotene. Aloe vera is also one of the few plants that contain vitamin B12. Vitamins A, C and E are important antioxidant vitamins that are important in the fight against free radicals. All three are beneficial for the immune system, and vitamin C in particular helps wounds heal. It also produces collagen, which makes bones, skin and joints stronger and stronger. Vitamin A is essential for maintaining night vision. Vitamin E helps the body use oxygen and prevents blood clots, thrombosis and atherosclerosis. It may also improve wound healing and fertility.

#### **TYPES OF ACNE :**

##### **THERE ARE VARIOUS TYPES OF INFLAMMATORY ACNE :**

##### **Papules –**

Papules occur when excess oil, bacteria, and dead skin cells penetrate the outer layers of the skin, causing inflammation. Our skin becomes red and swollen, called red papules.

**Pustules** – These are papules and contain pus.

##### **Cysts –**

Cysts are more serious than regular acne and appear on the skin. Since the pores are clogged, many infections can start and cause pain.

**Nodules** – these may be red or thin in color

##### **NON-INFLAMMATORY ACNE :**

##### **Whitehead :**

Whiteheads are pimples that are not painful. These are close to acne caused by oil and dead skin. They appear white in color due to sebum accumulation on the skin.

**Blackheads:** These are open comedones.

The items listed are not made of leather. They are exposed and oxidized due to the external environment. So when they see black, they are called blackheads.

##### **Inflammatory Acne :**

This type of acne is swollen, red and painful.[16]

#### Advantages of Face Wash :

It helps remove dead skin and replaces it with new skin.

- It makes the skin beautiful and healthy.
- Gives a beautiful skin.
- You will want your skin to age slower by removing dead skin cells.[17]

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#### CHEMICAL CONSTITUENTS :

##### ALOE VERA CONTAINS TWO TYPES OF ALOE GLYCOSIDES:

Nataloside reacts with nitric acid to produce picric acid and oxalic acid, but does not produce red color when reacting with nitric acid; (2) Barbaryne reacts with nitric acid to form Aloe acid (C<sub>7</sub>H<sub>2</sub>N<sub>3</sub>O<sub>5</sub>), chrysanthemic acid (C<sub>7</sub>H<sub>2</sub>N<sub>2</sub>O<sub>6</sub>), picric acid and oxalic acid and turns red from the acid. The second group can be divided into a- barbaloins from Aloe barbadensis, which turn red in cold, and bbarbaloins from Aloe vera so colin and Zanzibar, which change only with the same nitric acid Red > Gold. or when cooled with nicotinic acid. Nataloxin produces yellow scales. Barbaloin materials yellow prismatic crystals.[18]

#### CULTIVATION :

##### 1. Soil :

It grows well on marginal to marginal soils with low fertility. Plants tend to tolerate high pH and high Na and K salts. However, it is recommended on heavy soils of medium fertility, such as the black cotton soil of Central India, in soils of moderate fertility and pH, from well- drained loams to coarse sandy loams. . Faster to 8.5 In commercial facility

##### 2. Varieties :

Various species of this genus have been given the popular name Aloe vera. Aloe Lin. Aloe chinensis Baker, A. indica Royle, A. perryi Baker, etc. It belongs to the Lilia ceae family. Among these A. Vera Lynn Synonyms. A. barbadensis Miller is considered the true botanical source of aloe. In most works A. barbadensis Miller is considered the correct name, but according to the World Health Organization monograph A. vera linn is accepted as the official name of the species.

##### 3. Planting time :

For better survival and subsequent growth of the plant, suckers should be p lanted during the monsoon season from July to August. However, it can be planted in water throughout the year, except for winter (November -February).[19]

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#### METHOD OF MATERIALS :

##### FORMULATION OF FACE WASH

SR.NO	INGREDIENT.	QUANTITY
1.	Alove vera	3 gm
2.	Rose Water	1 ml
3.	Peppermint oil.	1 ml
4.	Almond oil.	1 ml
5.	Glycerin.	2 ml
6.	Soap Base	2 gm

#### EVALUATION TEST FOR FACE WASH :

##### 1) Rheological Characteristic:

Some physical properties, clogging, viscosity changes and detection were examined.

##### 2) Determiation of pH:

Determine the pH of the sample using a digital pH meter. Dissolve on e gram of facial cleansing gel in 100 ml of demineralized water and le ave for two hours. The pH of each formulation was measured in triplic ate.

The device is calibrated with pH 4 standard without chemicals before use.

3) **Washability:** Use the hand tool and look under the water.

4) **Stability Study:**

Although the temperature of the Instant Whitening Facial Cleanser is constant, it also has temperature and relative humidity.[20]

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## CONCLUSION:

Aloe Vera is an ancient Ayurvedic plant that has a long history as a medicinal plant with many therapeutic properties and is still used in many countries. Thanks to human trade and migration, plants were known and widely used throughout ancient civilizations to treat burns and wounds. Welfare

As long as economics are not an issue this cultivation can be an attractive business. Cultivation of aloe vera is important for the production of medicinal and cosmetic products. Growing aloe vera requires skill and effort. Proper management can lead to more revenue and profits. Aloe Vera

The nutritional composition of Aloe Vera is unique and has beautiful beauty properties.

It takes a lot of time and is undoubtedly a gift of nature. People, we still need to show it to ourselves and thank you for giving us an endless gift.[21]

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