

## Research Article



## Preparation and Evaluation of Herbal Face Wash

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## ABSTRACT

Cosmetics are a type of health and beauty product used to enhance or modify a person's look or to care for the face and body. The use of herbs in cosmetics has grown in popularity in recent years because of its moderate action, low toxicity, and proven effectiveness. The current study focuses on creating and testing herbal face wash that is enhanced with liquorice and aloe Vera to cleanse, moisturize, and brighten skin. For dry and sensitive skin, aloe Vera is perfect since it deeply hydrates, reduces irritation, and helps keep the skin's moisture balance. A well-known skin-brightening and anti-inflammatory ingredient, liquorice extract helps promote an even skin tone by minimizing pigmentation, black spots, and blemishes. The antibacterial and antioxidant properties of these plant components protect against germs that cause acne. This herbal face wash is gentle but efficient, leaving the skin feeling nourished, renewed, and glowing for every type of skin. Herbal face washes are a great option for anyone looking for a more natural and environmentally responsible skincare routine because they offer a natural and holistic approach to skincare, effectively cleansing and nourishing while lowering the possibility of side effects.

**Keywords:** Face wash, traditional medicine, liquorice, aloe Vera, neem.

## INTRODUCTION

The largest organ in the body, the skin is frequently exposed to external stimuli, so it takes careful attention to keep it healthy. Various environmental contaminants can weaken our skin, leading to a variety of issues such as early aging, lost elasticity, and a dull complexion.<sup>1</sup>

A face wash is a gentle cleanser that hydrates the horny layer without being harsh on the skin and performs the essential function of keeping skin clean, germ-free, smooth, and fresh. So that skin seems youthful and vibrant. Skin fairness, anti-wrinkle, anti-acne, and moisturizing properties are some of the possible uses for face wash.

## Benefits of face wash

- Eliminates dead skin cells
- Skin rejuvenation
- Eliminates dirt, oils and impurities
- Reduces skin micro flora
- Keep the skin fresh and clean<sup>2</sup>

## Types of face wash

- Oily skin face wash
- Dry skin face wash
- Normal skin face wash<sup>3</sup>

## Forms of face wash

- Cream based face wash
- Liquid based face wash

- Gel based face wash
- Powder based face wash

## Advantages

- It facilitates the removal of dead skin cells, allowing new skin cells to replace the old ones.
- It helps keep skin healthy and fresh. It makes the skin look more vibrant.
- Regular exfoliation of the pores can help prevent acne, white heads and black heads
- Give the skin energised and wrinkle-free look<sup>4</sup>

Properties of face wash include cleansing, hydrating, exfoliating, pH balanced and anti-bacterial. Various additives can be added while preparing a face wash which includes surfactants, anti-oxidant, anti-bacterial agents, preservatives, fragrance, gelling agent, humectants and foaming agents.<sup>5</sup>

## Face wash

Face wash is a cosmetic product designed for a facial skin care that is commonly utilized as a daily cleanser to address facial skin concerns such as eliminating dead skin cells, revitalizing the skin, removing dirt and oil and delivering moisture to the skin. Face wash can assist in the removal of dead skin cells and permit the regeneration of new skin cells, aid in sustaining the freshness and health of the skin, impart a radiant appearance to the skin. It also helps in reducing the difficulties associated with acne and blackheads, as well as ensure that the removal of dead skin cells will contribute to a slower onset of wrinkles on the skin.<sup>6</sup>



### Types of face washes:

Different types of face washes are available based on skin types and concerns.

**Cleansing face wash:** These products are gentle and appropriate for daily use to eliminate dirt, oil, and impurities without removing the skin of its natural oils.

**Hydrating face wash:** These are composed of ingredients such as cucumber, aloe Vera or hyaluronic acid, this face wash replenishes the moisture and calms the dry skin.

**Exfoliating face wash:** These formulations contain natural exfoliants such as apricots, kernels or ground walnut shells to remove dead skin cells which enhance cell turnover, results in smoother and brighter skin.

**Acne- fighting face wash:** Herbal face washes contain ingredients such as tea tree oil, neem, or salicylic acid can aid in combating acne, diminishing inflammation, and averting breakouts.

**Anti- aging face wash:** Crafted with ingredients such as green tea, ginseng or vitamin C, these face washes aid in reducing fine lines and wrinkles, enhancing collagen production and fostering youth-full looking skin.

**Brightening face wash:** These types of face washes typically incorporate ingredients like turmeric, lemon, liquorice extract, which contribute to evening out skin tone, lessening dark spots and providing a radiant complexion.<sup>7</sup>

### Ideal properties of herbal face wash

- It must maintain the skin's natural pH balance to avert irritation and dryness.
- The product must be environmentally sustainable.
- It includes natural ingredients derived from botanical extracts, essential oils, and herbs recognized for their skin-nourishing attributes.
- Offering soothing and calming effects.
- Preventing clogged pores to diminish the likelihood of acne and breakouts.
- It should not be challenging to distribute without dragging.
- It should not feel slippery or greasy during application.<sup>8</sup>

### Benefits of herbal face wash

- Assists in maintaining clear and healthy skin.
- It enhances the radiance of the skin
- Consistent exfoliation of pores prevents all skin related issues.
- Eliminates dead skin cells, thereby slowing the

formation of wrinkles on the skin.

- Suitable for all skin types.
- Wide range of selections.
- Less side effects compared to synthetic face wash.

### Advantages of herbal cosmetics over synthetic cosmetics

These remedies are increasingly favoured as most women tend to choose natural products over chemical alternatives for their personal care in order to enhance their beauty, as these products nourish the body, improve health, and offer satisfaction. These products are devoid of synthetic chemicals and present comparatively fewer side effects in relation to synthetic cosmetics.<sup>9</sup>

### MATERIALS AND METHODS

#### Liquorice<sup>10,11</sup>

It is the dried, peeled or unpeeled roots, rhizomes, of the plant *Glycyrrhiza glabra* L. which belongs to the *Fabaceae* family.

#### Chemical constituents

The widespread use of *Glycyrrhiza glabra* can be attributed to two primary compounds: saponins and flavonoids. The most prominent saponin, glycyrrhizin, is found in the roots and stolons of the liquorice plant. It is remarkably sweet, with a sweetness approximately 200 times that of sucrose. In addition to glycyrrhizin, various active substances have been identified in the roots, including glycyrrhizinic acid, glabridin, glabrene, glabrol, licoflavonol, glycerol, glycyrrhetol, isoglabrolide, liquoricone, formononetin, phaseollinisoflavan, hispaglabridin A and B, 3-hydroxy glabrol, and 3-methoxy glabridin among others. The yellow colour of liquorice is attributed to its flavonoid content, which includes liquiritin, isoliquiritin (a chalcone), and other related compounds.<sup>12</sup>

#### Uses

- Delivers valuable soothing properties to the skin and highly rejuvenating and nutritive qualities.
- Liquorice helps lighten hyperpigmentation, dark spots, and even skin tone. It contains glabridin, a compound that inhibits the enzyme responsible for melanin production, which can reduce dark spots and brighten skin.
- The antioxidants in liquorice can help protect the skin from free radicals, reducing the appearance of fine lines and wrinkles.

#### Aloe vera<sup>13</sup>

*Aloe vera* is obtained from the dried juices of *Aloe barbadensis*, *Aloe ferox*, *Aloe perryi* which belongs to the Family *Liliaceae*.



## Chemical constituents

The primary active components of Aloe Vera plant extract are chromones and anthraquinones, along with their glycoside derivatives. Other notable compounds include phenylpyrone derivatives, flavonoids, phenylpropanoids, coumarins, phytosterols, naphthalene analogs, lipids, and vitamins.<sup>14</sup>

## Uses

**Used for Acne treatment:** Aloe Vera has antibacterial and anti-inflammatory properties, which can help reduce the appearance of acne and prevent new breakouts. It can soothe the skin and reduce the redness and swelling associated with acne.

**Reducing dark circles:** The cooling effect of aloe Vera can help reduce puffiness and dark circles around the eyes.

**Skin lightening:** Aloe Vera can help to lighten blemishes, dark spots, and hyperpigmentation due to its skin-healing and skin-brightening properties. It promotes cell regeneration, which can help even out skin tone over time.

**Used for treating Sunburn:** Aloe Vera is widely known for its cooling and soothing effect on sunburned skin.

## Lemon juice<sup>15</sup>

Lemon juice is the fresh juice of *Citrus limon* which belongs to the *Rutaceae* family.

## Chemical constituents

Lemons contain a variety of phytochemicals, including polyphenols and terpenes. Similar to other citrus fruits, they are rich in citric acid, with about 47g per litre of juice. The essential oil of lemons has a complex structure and includes compounds such as limonene, flavonoids, vitamin C, carotenoids, mucilages, calcium oxalates, citraol, terpineol, camphenium, and felandier. Additionally, lemons are abundant in pectin, sugar, citric acid, malic acid, and flavonoids.<sup>16</sup>

## Uses

**Skin Brightening and Even Skin Tone:** Vitamin C, an antioxidant found in lemon juice, helps lighten hyperpigmentation, acne scars, and dark spots. It can aid in skin brightening, giving the appearance of more even tone and brightness.

**Exfoliation:** Lemon juice's citric acid works as a natural exfoliator, removing dead skin cells to reveal smoother, more youthful skin. By gently removing impurities, it can also aid with blackheads and congested pores.

**Toning and tightening:** Lemon juice helps to tighten the skin and minimize the visibility of big pores. Your face may appear firmer and smoother as a result.

## Neem<sup>17</sup>

Neem consists of fresh or dried leaves of *Azadirachta indica* which belongs to the *Meliaceae* family.

## Chemical constituents

Phytochemical screening of Neem leaf extracts revealed a distinct set of chemical constituents compared to other parts of the plant. The analysis found the presence of tannins, saponins, flavonoids, alkaloids, glycosides, reducing sugars, polyphenols, HCN, and terpenes in the ethanolic leaf extract. Additionally, the ethanolic extract of Neem leaves was shown to contain fibres, vitamins, and micronutrients.<sup>18</sup>

## Uses

**Acne Treatment:** Because of its antibacterial, antifungal, and anti-inflammatory qualities, neem is used for acne treatment. Its anti-inflammatory properties calm the skin and lessen the redness and swelling that come with pimples, while also assisting in the reduction of the germs that cause acne outbreaks.

**Cleansing and Detoxifying:** By clearing the pores of debris, oil, and pollutants, neem aids in skin purification. A brighter complexion might result from using neem as a face wash or mask to keep the skin clean and avoid clogged pores.

**Skin Healing:** Neem is well-known for its ability to heal and has the ability to hasten skin tissue restoration. It works well for wounds, blemishes, and scars since it speeds up healing and gradually lessens the visibility of dark areas and scars.

**Skin Infections:** Neem has antifungal and antibacterial properties, making it effective for treating various skin infections, such as fungal rashes, ringworm, and other irritations.

**Table 1:** Ingredients for herbal face wash

Ingredients	Quantity
Liquorice	0.5 gm
Aloe Vera	0.5gm
Lemon juice	0.5ml
Neem	1gm
Methyl paraben	1gm
Carbopol 940	0.025gm
Sodium lauryl sulphate	1gm
Distilled water	qs
Rose oil	qs

## Procedure:

1. Take liquorice powder, aloe, neem, and rose water and it was mixed for 2 to 3 minutes.
2. Sodium lauryl sulphate is dissolved in water.
3. Add water and Carbopol in a beaker and mix it thoroughly until it gets dissolved.
4. SLS solution is mixed to carbopol mixture.
5. The two mixtures are combined.



6. Add lemon juice to the above mixture.
7. Finally add methyl paraben and rose oil, and then it is packed in the bottle.

#### Evaluation parameters

##### a) Organoleptic evaluations

Colour, odour, texture was determined.

##### b) Determination of pH

A calibrated digital pH meter was used to measure the pH of a 1% aqueous solution of the formulation at a steady temperature.

##### c) Spreadability

The spread ability of the formulation was found manually by applying the gel to the skin with a gentle rub.

##### d) Determination of Foamability

A small quantity of gel was added to water in a beaker.

After taking the initial volume, it is shaken for ten times and the final volume is measured.

##### e) Determination of Viscosity

10 ml sample that had been prepared was placed in a breaker and examined using a digital viscometer.<sup>19</sup>

##### f) Washability

The product was applied on hand and placed under running tap water.<sup>20</sup>

#### Uses

- To remove impurities, germs and makeup.
- Anti-aging.
- Stimulates their generation of the skin cells and their renewal.
- For cleansing the skin.

#### CONCLUSION

Herbal face wash provides a natural and gentle approach to skincare, harnessing the power of plant-based ingredients to cleanse, nourish, and protect the skin. It effectively removes dirt, oil, and impurities while offering additional benefits like hydration, soothing irritation, and addressing specific skin concerns such as acne or dryness.

With the right blend of herbs, such as neem, aloe Vera, and liquorice, herbal face washes not only purify the skin but also enhance its overall health and appearance. Regular use can lead to a clearer, smoother, and more radiant complexion, making it an ideal choice for those seeking a more natural skincare routine.

Liquorice is renowned for its skin-brightening abilities, helping to reduce dark spots and create a more even skin tone. Neem, known for its anti-bacterial and anti-

inflammatory properties, helps combat acne, relieve irritation, and prevent infections. Aloe Vera, famous for its soothing and hydrating qualities, moisturizes the skin while easing redness and inflammation.

These ingredients work together in harmony, offering not only a deep cleanse but also nourishment, relief, and protection from environmental damage. The gentle yet effective formula makes this face wash suitable for all skin types, including sensitive skin. Consistent use can result in a clearer, healthier, and more radiant complexion.

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