

## A REVIEW ON HERBAL SOAP CONTAINING OCIMUM TENUIFLORUM (TULSI)

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### ABSTRACT

The aim of our study was to develop the herbal soap by using double boil method, leveraging the herb's therapeutic properties to promote skin health. Herbal soaps are crafted from natural herbs and ingredients, which are typically healthier for the skin and less likely to cause harm. The herbal soap was formulated by using leaves of Tulsi (*Ocimum tenuiflorum*), turmeric (*Curcuma longa*), aloe vera, almond oil, rose water (*Rosa Damascena*) and lavender oil. The use of herbal soaps provides various benefits, such as soothing and healing the skin. Turmeric shows anti-inflammatory and anti-bacterial properties and Tulsi shows anti-viral activity, soothing and calms skin irritations. Aloe vera is used for reduce acne, sun burn and moisturizer.

**KEYWORDS:** Herbal soap, anti-inflammatory, anti-viral, skin health.

### INTRODUCTION

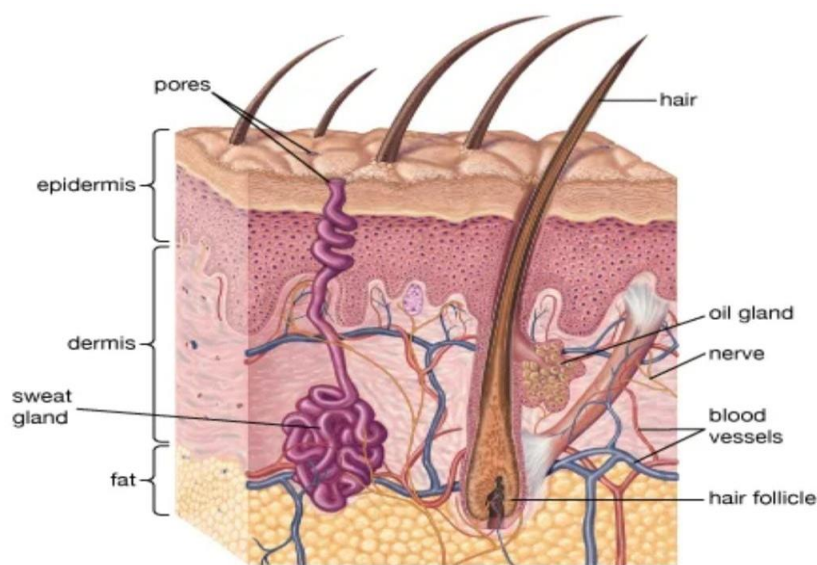
The word cosmetic was derived from the Greek word “kosm tikos” meaning having the power, arrange, skill in decorating. The cosmetics, according to the Drugs and Cosmetics Act is defined as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part there of for cleansing, beautifying, promoting attractiveness or altering the appearance. The herbal cosmetics are the preparations containing phytochemical from a variety of botanical sources, which influences the functions of skin and provide nutrients necessary for the healthy skin or hair.<sup>[1,2]</sup>

Skin is the largest sensitive organ in the body. It serves as a barrier that protects the body

organs and gathers sensory data from the surroundings. Additionally, it aids in keeping the body's temperature at a healthy condition. Diverse distinctive cells and structures can be set up in the skin. The hypodermis, dermis, and epidermis are the three primary layers. Each layer contributes in a unique way to how the skin works as a whole.<sup>[3]</sup> As skin imparts a specialized function to body wellbeing, it's necessary for us to keep it away for skin diseases and alignments. Skin conditions are a prevalent illness. It harms people of all ages, including newborns and the elderly, and does so in several different ways. Infections, allergies, sun exposure, injuries, and other factors can all lead to skin issues.<sup>[4]</sup> Ever since the earliest times, people have employed medicinal plants as a form of treatment.

### Skin types

1. Normal skin
2. Oily skin
3. Combination skin
4. Sensitive skin.



**Fig. 1: Skin Anatomy.**<sup>[5]</sup>

### Functions of Skin

It serves as a protective shield against heat, light, injury, and infection. The skin also:

- Regulates body temperature
- Stores water and fat
- Sensory organ
- Prevents water loss

- Prevents entry of bacteria
- Acts as a barrier between the organism and its environment
- Helps to make vitamin D when exposed to the sun.<sup>[6]</sup>

## Soap

Soap is a salt of fatty acid used in a variety of cleansing and lubricant products. Soaps are surfactant usually used for washing and bathing and other types of housekeeping. Soaps are used to remove dirt including dust microorganism, strains, and bad smells from the body.

## Types of Soap

- 1] Laundry soaps
- 2] Cleaning soaps
- 3] Personal soaps
- 4] Novelty soaps
- 5] Perfumed soaps
- 6] Guest soaps
- 7] Beauty soaps
- 8] Medicated (or) Herbal soaps
- 9] Glycerine soaps
- 10] Transparent soaps.

Herbal soap preparation is a medicine or drugs it contain Antibacterial and antifungal agents which mainly uses of part of plants such as like leaves, stem, roots and fruits to treat an injury or disease or to achieve good health. This preparation possess antimicrobial property are administered topically and available to apply in various forms like creams, lotion gel, soap, solvent extract or ointment. The varieties of creams and soap properties have been used to treat various skin disorders. These herbal medicinal products impart various properties such as anti-bacterial, antimicrobial, anti-inflammatory, anti-helminthic, anti-diabetic, antioxidant and many more. Herbal soaps effectively cleanse the skin, removing dirt, oil, and impurities without stripping away the skin's natural oils. They can help maintain the skin's natural pH balance and prevent excessive drying.

## ➤ Advantages

- Herbal soaps are paraben and sulphate free.
- Natural ingredients.

- Handmade soap.
- Targets skin problem.
- In herbal soaps coloring agents are not added.
- Herbal soap is no tested-on animals.
- Herbal soap is nourishing and moistening the skin.

#### ➤ **Disadvantages**

It's hard to think of a disadvantage associated with organic soap after reading all the benefits it can bring,

- Some people may have issues with organic soaps due to the presence of essential oils they are allergic to skin.
- This can cause different reactions that may vary based on the person.

#### ➤ **Limitation**

- They may not be as effective at killing bacteria as commercial soaps.
- They may not lather as well as commercial soaps.
- They may not be as long-lasting as commercial soaps.
- They may not be as affordable as commercial soaps.<sup>[7]</sup>

### **Uses of herbal soap**

1. Antibacterial
2. Maintain skin health
3. Enhance skin fairness
4. Natural soap helps maintain healthy skin
5. No harmful chemicals
6. Improved skin texture
7. Reduced appearances of wrinkles
8. Protected skin barriers.<sup>[8]</sup>

## **METHOD OF PREPARATION**

### **Ingredients for Glycerine soap base preparation**

Sl.no.	Ingredients	Category
1.	Coconut oil	Lather and moisturizing
2.	NaOH solution	Detergent
3.	Sodium lauryl sulphate	Foaming agent
4.	Glycerin	Humectant

5.	Stearic acid	Hardening agent
6.	Ethanol	Solvent
7.	Soft Paraffin	Hardening agent

### Procedure for glycerine soap base

Soap base ingredient add coconut oil (100ml), heat oil for 5 min. on water bath then add NaOH solution to oil (20 gm NaOH+ 100 ml H<sub>2</sub>O) stir continually for 8 -10 min, add SLS (10ml) stir for 2 min add 10 ml glycerine stir 2- 3 min continuous, Add steric acid (1gm) for hardening, 5 ml ethanol as solvent add soft paraffin 0.7 gm, stir for 5-8 min. Add 10 ml triethanolamine & stir to form thick paste mix all & pour in mould to get solidify.<sup>[7]</sup>

### Ingredients for soap Preparation<sup>[9]</sup>

Sl.no	Ingredients	Category
1.	Tulsi powder	Anti-bacterial, Anti-viral
2.	Turmeric powder	Anti –septic, Anti-bacterial
3.	Aloe Vera gel	Moisturizing agent & Anti-dandruff
4.	Almond oil	Vitamin
5.	Glycerine soap base	Soap base
6.	Rose water	Reduce the skin redness
7.	Lavender essential oil	Perfuming agent

### Double Boiling Method for Soap formulation

The double boiler was placed on the hot plate. The soap bases were cut into cubes, and were filled up to 75% volume in container. 1-2% of water was added to compensate the soap base. The top was covered and allowed to melt with stirring lightly in between. The melting temperature was around 75-80°C. Once the base completely melted, different extracts were added which include 2gm of Tulsi, 0.5gm of turmeric, 10gm Of aloe vera gel, 3ml Almond oil, rose water 5 ml and lavender essential oil [qs]. It was then poured into a mould. It was allowed to cool at room temperature and then demoulded.<sup>[10]</sup>

### Evaluation Parameter

#### A. Organoleptic evaluation<sup>[11,12]</sup>

- i. **Colour:** Green
- ii. **Odour:** Almond
- iii. **Appearance:** Good

**B. Physical evaluation**<sup>[13,14,15]</sup>

- I. Foam Retention:** In the 100 ml of measuring cylinder transfer the Prepared the 25 ml of the 1% soap solution. Then the cylinder was shaken 10 times. The volume of foam retention was recorded.
- II. Foamability:** 50 ml of distilled water was taken and 2 gm of soap sample was dissolved completely by stirring. It was then transferred into a 250 ml measuring cylinder along with washings. The volume was made up to 200 ml by adding distilled water. 25 uniform strokes were given to the mixture and kept stand still for some time until the water volume comes to 200 ml. The foam height was measured from above the water volume.
- III. Foam stability:** Same quantity of soap sample and quantity of distilled water along with process was carried out as that of foam ability and the mixture was kept stand still for 30 min. After 30 min measurement of foam height was done from above the water volume.
- IV. Foam Height:** Dissolved 0.5 gm of soap in distilled water then with distilled water in 100 ml measuring cylinder make up the volume up to 50 ml. By giving 25 strokes the volume of foam height was measured.
- V. Sensitivity Test:** It is tasted by “patch test”. Apply product on 1 cm Patch of skin, if no any inflammation or rashes then it considered as free from sensitivity.
- VI. Skin irritation Test:** Wash the skin properly then apply the soap sample on skin and observe any irritation or burning, itching.
- VII. Wash ability Test:** This test was carried out by applying a small amount of cream on the hand and then washing it with tap water.
- VIII. Determination of pH:** The pH of all the prepared formulations was determined by using Digital pH Meter. The Formulations were dissolved in 100 ml of distilled Water and stored for two hours. The measurement of pH of formulation was done in previously calibrated pH meter.

**CONCLUSION**

Herbal soap is gaining popularity as a natural and eco-friendly alternative to regular soap due to its many benefits over the latter. Because it is made of natural scents and therapeutic plant-based and herbal ingredients, it is ideal for sensitive skin. A variety of herbs can be used to make herbal soap, which can soothe and mend skin, enhance the health benefits of aromatherapy, and provide further benefits including reducing stress and anxiety.

Herbal soap is an excellent option for persons with skin sensitivities or allergies since its natural ingredients are more likely to prevent irritation or allergic reaction than the harsh chemicals found in conventional soap. In addition, many herbs and botanicals have relaxing properties that can even help relieve psoriasis and eczema and other skin irritations.

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