

## A REVIEW ON ARTISAN SOAP

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### ABSTRACT

Making a herbal soap using natural materials like neem, turmeric, aloe vera, and lemon oil is the goal of this project. Neem is well-known for the role to destroy bacteria and reduce inflammation, which helps treat skin infections and acne. Turmeric promotes healthy skin by calming the skin and reducing redness. While lemon oil has antimicrobial qualities and can help lighten the skin, aloe vera is excellent for calming and hydrating the skin. This soap aims to combine the advantages of these natural elements for healthier skin while offering a mild, chemical-free substitute that is suitable for all skin types. Herbal soap is a kind of soap that combines regular soap-making materials with natural substance using herbs, essential oils, and plant extracts. This special combination produces a soap that has medicinal properties in addition to being a skin cleanser. Herbal soap can be used to cleanse and purify the skin, hydrate and moisturize dry skin, and reduce inflammation and skin irritation. Herbal soap can be used to treat and prevent acne, manage eczema and psoriasis. Herbal soap has several properties like Anti-inflammatory, Antimicrobial, Antioxidant, Antiseptic, Soothing, Detoxifying, Anti-aging.

**KEYWORDS:** Soap, Anti inflammatory, Antimicrobial, Skin, Herbal.

## 1. INTRODUCTION

Since ancient times, soap has been used in a variety of ways for both cleaning and personal hygiene. It is usually made by a chemical process called saponification, in which fats or oils combine with an alkali (like sodium hydroxide) and glycerin. Two parts of soap molecules are hydrophilic (attract water) and bind to water, while the other component is hydrophobic (repels water) and clings to oils and grease. This characteristic enables soap to emulsify and cleanse surfaces, including the human body, of oils and grime. Since ancient times, soap has been used by people like the Sumerians and Egyptians, and it is still a necessary product for cleaning and personal hygiene.<sup>[1][2][3]</sup>

### 1.1 SOAP

A form of soap known as "herbal soap" is created with natural plant-based materials such fruits, flowers, herbs, and essential oils. These soaps are a popular option for people looking for a more environmentally and skin-friendly substitute for traditional soaps because they are usually free of harsh chemicals and artificial additions. Herbal soaps are well-known for their health benefits, which can include nourishing, calming, and hydrating the skin. Depending on the herbs used, they may also have antibacterial or anti-inflammatory effects. Common

constituents with distinct therapeutic properties include neem, turmeric, lemon and aloe vera.

Herbal soaps frequently address a variety of skin types and conditions, offering all-natural solutions for typical problems including dryness, irritation, and acne. These soaps' mild and soothing scents are another reason why many people favor them. Herbal soaps are also linked to ancient medical systems that emphasize the medicinal use of plants and herbs for health and skincare, such as Ayurveda and ancient Chinese Medicine.<sup>[4][5]</sup>

### 1.2 Type of herbal soap

**1. Aloe Vera Soap:** Soothes skin irritations and moisturizes dry skin.<sup>[6]</sup>

**2. Neem Soap:** Known for its antibacterial and antifungal properties, effective against acne and skin infections.<sup>[7]</sup>

**3. Turmeric Soap:** Anti-inflammatory properties help reduce redness and soothe skin conditions like eczema and psoriasis.<sup>[8]</sup>

**4. Ginger Soap:** Natural anti-inflammatory properties help reduce pain and inflammation, while also providing antioxidant benefits.<sup>[9]</sup>

**5. Cucumber Soap:** Cools and soothes the skin, reducing puffiness and inflammation.<sup>[10]</sup>

**6. Tea Tree Soap:** Antimicrobial properties help combat acne, minor cuts, and scrapes.<sup>[11]</sup>

**7. Rosemary Soap:** Encourages healthy skin, lowers inflammation, and increases circulation.<sup>[12]</sup>

**8. Sandalwood Soap:** Its antibacterial and anti-inflammatory qualities aid in relieving skin irritations and encouraging rest.<sup>[13]</sup>

**9. Lemongrass Soap:** Its antibacterial and natural astringent qualities help minimize pores and fight acne.<sup>[14]</sup>

**10. Chamomile Soap:** Promotes relaxation and reduces inflammation by soothing and calming the skin.<sup>[15]</sup>

### 1.3 Advantages of Herbal Soap

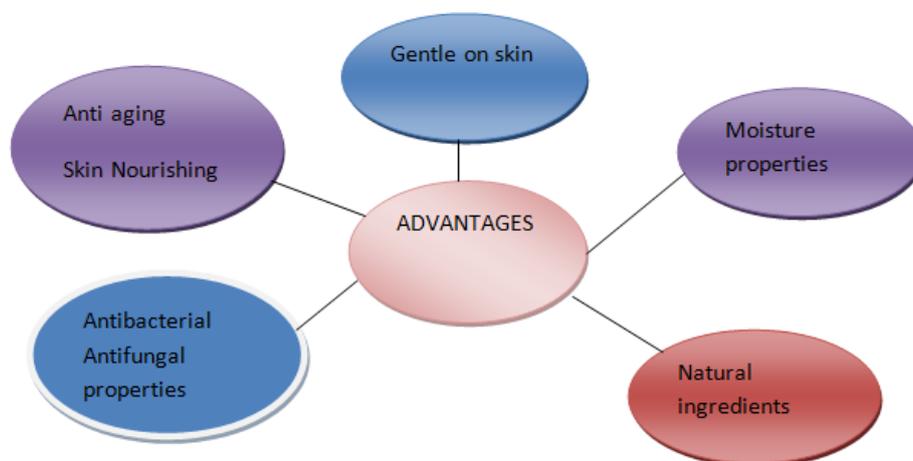
**1. Gentle on the Skin** - Unlike commercial soaps that could contain artificial perfumes and preservatives, herbal soaps are usually free of harsh chemicals, making them appropriate for delicate skin.<sup>[16]</sup>

**2. Moisturising Properties:** A lot of herbal soaps contain oils like coconut, olive, and shea butter, which help keep the skin moisturized and supple by preserving its natural moisture content.<sup>[17]</sup>

**3. Natural Ingredient:** Plant-based ingredients, typically devoid of harsh chemicals like parabens, sulfates, or artificial perfumes, are used to make herbal soaps. They are therefore a safer option for those who have sensitivities or allergies.<sup>[18]</sup>

**4. Antibacterial and Antifungal Properties:** Certain natural compounds, such as eucalyptus, neem, and tea tree oil, have antiviral, antifungal, and antibacterial qualities. These can aid in the fight against skin disorders like acne and infections.<sup>[19]</sup>

**5. Anti-aging and Skin Nourishment:** Antioxidants, such as vitamin C and E, are found in many herbal soaps. These substances help shield the skin from harm caused by free radicals and promote skin cell regeneration, which results in a more youthful complexion.<sup>[20]</sup>



**Figure 01: Advantages of Herbal Soap.**

### 1.4 Disadvantages OF Herbal Soap

#### 1. A Reduced Shelf Life

Herbal soaps typically have a shorter shelf life than regular soaps because they don't contain preservatives. Over time, they could lose their efficacy or turn rancid, especially if they are exposed to air and moisture.<sup>[21]</sup>

**2. Higher Cost:** Because natural components are more expensive to source and there isn't mass production, herbal soaps are frequently more expensive than conventional soaps. They may become more expensive for daily use as a result.<sup>[22]</sup>

**3. Not Ideal for All Skin Types:** Although herbal soaps are generally gentle, some people with extremely oily or acne-prone skin may find that they are less effective

since they may not be able to effectively remove excess oil or provide deep cleansing.<sup>[23]</sup>

**4. Ineffectiveness for Some Skin disorders:** Herbal soaps may be helpful for the treatment of mild skin irritations, but they might not be successful enough for more serious skin disorders like psoriasis, acne, or eczema. In certain situations, pharmaceutical therapies can still be required.<sup>[24]</sup>

**5. Inconsistent Quality:** Depending on the brand and ingredient source, herbal soap quality can vary significantly. Some might be made using premium herbs, but others might have inferior extracts or additions that compromise their safety and efficacy.<sup>[25]</sup>

### 1.5 Herbal Soap Market Process

Obtaining raw ingredients, creating the product, packaging it, promoting it, and distributing it are all important steps in the market preparation process for herbal soaps. The procedure is broken down as follows:

**1. Sourcing Raw Materials:** Finding premium, organic oils, herbs, and other natural products is the first step. Due of their well-known skincare qualities, aloe vera, neem, lavender, peppermint, and rose are popular components. Usually, companies that use sustainable techniques or organic farms provide these ingredients.

**2. Formulation:** It's crucial to create a special recipe for the herbal soap. It entails experimenting with different blends of oils, herbs, and other natural ingredients to attain a balance of skincare advantages like acne management, anti-aging, and hydrating. The formulation also entails figuring out how much of each ingredient is needed and making sure the soap has a pleasing texture and scent.

**3. Manufacturing Process:** Cold or hot process methods are typically used to make herbal soaps. While hot processing uses heat to speed up the process, cold processing combines oils and lye and lets the soap cure. There are few herbal soap items shown in below table:

**Table No. 1: India's famous herbal Soaps.**

S. No.	Soaps	Company	Brand
1.	Aloe Vera	Hindustan Unilever, ITC Limited, Krishna Herbal	Lux, Lifebuoy Vivel, Fiama Alovea, Vedalo
2.	Neem	Himalaya Herbal Healthcare, Dabur, Patanjali Ayurved	Himalaya Neem Soap Dabur Neem Soap Patanjali Neem Soap
3.	Turmeric	Vicco Laboratories, Himalaya Herbal Healthcare, Biotique	Vicco Turmeric Ayurvedic Soap Himalaya Neem And Turmeric Soap Biotique Turmeric Soap
4.	Lemon	Aloe Veda Herbal Hills Ayur	Aloe Veda Lemon Soap Herbal Hills Lemon Soap Ayur Lemon Soap

## 2. LITERATURE SURVEY

Kumar et al. (2021) demonstrates how the market for organic soaps is expanding quickly worldwide, with herbal soaps leading the way. Customers are becoming more and more prepared to pay more for non-toxic and environmentally friendly products.

(Vijayakumar & Natarajan, 2021) studied that there is a growing demand for herbal soaps that are free from synthetic chemicals, parabens, and artificial fragrances. Consumers are increasingly choosing products that align with their values of sustainability and cruelty-free production.<sup>[28]</sup>

(Basu et al., 2020) studies that people with eczema or sensitive skin frequently choose herbal soaps because of their mild formula and absence of harsh chemicals. As a result, more people are using herbal soaps in their skincare regimens.<sup>[29]</sup>

over time. The inherent properties of the herbal components are maintained in both techniques.

**4. Packaging:** Herbal soap marketing relies heavily on packaging. Eco-friendly packaging materials like cardboard, recyclable paper, and biodegradable wrappers are used by many businesses. The consumer's perception of the product's sustainable and natural attributes is influenced by its design and labeling.

**5. Marketing:** The goal of herbal soap marketing is to inform customers about the advantages of using natural skincare products. Businesses frequently emphasize the plants' therapeutic qualities, environmentally sustainable production processes, and lack of dangerous chemicals. To reach a larger audience, digital marketing techniques like influencer alliances and social media campaigns are frequently employed.

**6. Distribution:** Online marketplaces, health and wellness shops, organic product merchants, and even neighborhood farmers' markets are some of the outlets where herbal soaps are offered for sale. Online shopping has had a big impact on the market and made it simpler for customers to get a variety of herbal soap items.<sup>[26][27]</sup>

(Sharma & Gupta, 2020) addition to its well-known antibacterial and antifungal qualities, neem and tea tree oil are good for oily or acne-prone skin.<sup>[30]</sup>

Sahu et al., (2019) addition to their reputation for being nutritious and hydrating, natural oils including castor, coconut, and olive oils are frequently used. While cleansing, these oils support the preservation of the skin's natural moisture barrier.<sup>[31]</sup>

(Shukla & Kumar, 2018) considering that they may deeply hydrate dry skin, coconut oil-based herbal soaps are especially advantageous.<sup>[32]</sup>

Sahu et al. (2017) evaluated the safety and dermatological benefits of herbal soaps, confirming that herbal formulations cause fewer allergic reactions compared to synthetic soap brands.<sup>[33]</sup>

Rohini et al., 2016 utilised coconut oil for preparation of soap. Due to its high fatty acid content, which serves as an emollient and keeps skin hydrated. It has antibacterial qualities as well.<sup>[34]</sup>

Olabode et al. (2015) showed that herbal soaps are effective against common skin pathogens, including *Staphylococcus aureus* and *Escherichia coli*.<sup>[35]</sup>

Bhat and Shetty et al., (2014) used aloe vera for preparation of herbal soaps because of its calming and moisturizing qualities and observed that aloe vera extract increases skin suppleness and lessens skin irritation.<sup>[36]</sup>

Manivannan et al. (2011) demonstrated that soaps containing turmeric extracts effectively combat skin infections and enhance skin health. Turmeric is well-known for its antioxidant, anti-inflammatory, and antimicrobial properties.<sup>[37]</sup>

Mishra et al., 2009 surveyed that in herbal soaps, neem oil is frequently utilized because of its antibacterial, antifungal, and anti-inflammatory qualities. Neem oil is effective in treating skin conditions like eczema, acne, and fungal infections, according to studies.<sup>[38]</sup>

### 3. Formulation of Herbal Soap

Table No. 2: Formulation of Herbal Soap.

S. No	Ingredients	Quantity
1.	Lemon oil	6g
2.	Neem leaves	18g
3.	Turmeric	30g
4.	Aloevera	60g
5.	Soap base	Q.S

#### 3.1 Preparation OF Herbal Soap

**Step 1-** Take dried Turmeric root and Neem Leaves with the small amount of Glycerin in a pan and heat gently for two or three hours and strain the mixture and discard the solids

**Step 2-** Cut the Soap base into small pieces and melt it in a beaker on heating mentle.

**Step 3-**After melting the soap base properly, add the herbal infusion i.e (Turmeric, Neem) and Aloe Vera to the melted soap base and mix well.

**Step 4-**And add lemon oil mix it well and pour the soap mixture into mold and allow it to set for 24 to 48 hours

**Step 5-**After 48 hours remove the soap from mold and cut into bars.

#### Observation Table

Table No. 3: Observation of Herbal Soap.

Parameters	Actual Result
Color	Yellowish Brown
Texture	Smooth and Creamy
Lather	Rich and Creamy lather

**Step 6-** Allow the soap to cure for 2 to 4 weeks. And it is ready to use.

### 3.2 Evaluation Test For Herbal Soap

#### 1. Sensory Assessment (the way it feels, smells, and looks)

- **Appearance:** Verify that there are no cracks, discolorations, or rough surfaces on the soap.
- **Fragrance:** Check the soap's herbal aroma by sniffing it to make sure it's not overpowering or under powering.
- **Texture:** Check for roughness or smoothness by feeling the soap.
- **Lather:** When combined with water, measure the amount of foam or lather it produces.
- **Skin Feel:** Examine your skin after using the soap to see if it feels tight and dry or soft and hydrated.

#### 2. Chemical and Physical Examination

- **pH Level:** Verify that the soap has a pH that is suitable for skin, which is often about 5.5. This is important because it guarantees that the soap won't cause skin irritation.
- **Moisture Content:** Verify whether the soap is too moist or dry. Proper moisture prolongs its lifespan.

#### 3. Microbial Testing

- **Bacteria and Mold Test:** Verify that the soap is free of dangerous bacteria, mold, or fungal growth.
- **Preservatives:** Make that the soap's antimicrobial preservatives are functioning correctly.

#### 4. Skin Safety Testing

- **Spot Test:** To determine whether soap causes irritation, redness, or an allergic reaction, apply a tiny bit to a small spot of your skin.
- **Clinical Testing:** To make sure the soap is safe for everyday use, it is occasionally tested on humans.

#### 5. Stability Testing

- **Shelf Life:** Check to see if the soap maintains its efficacy, look, and scent over time.
- **Packaging:** Verify that the soap is protected and won't break or dry out by the strong packing.

#### 6. Environmental Impact Testing

- **Biodegradability:** Verify that the soap breakdowns naturally and doesn't damage the environment after being cleaned.
- **Eco-friendly Ingredients:** Verify if the soap's ingredients are safe for the environment.<sup>[39][40]</sup>

Fragrance	Pleasant
PH level	5.8
Moisture Content	22%
Anti microbial Property	Reduce bacterial and Fungal growth
Skin Irritation	No irritation
Stability	Stable and Effective

#### 4. CONCLUSION

The herbal soap in which we include Neem, Aloe vera, Lemon oil and Turmeric having their own properties like Antimicrobial, Antifungal, Anti inflammatory and antioxidant properties and lemon oil include citric acid it is source of Vitamin C (Ascorbic Acid) which is responsible for Skin brightness, Reduce Dark Spots. Aloe Vera gel provide moisture to the skin and soothing effect. The herbal soap is not just for cleaning but can be used for medical purpose like reducing acne, Eczema or psoriasis. Neem is also used for exfoliate the skin and remove dead skin cells. The soap's PH level, texture and lather have been optimized to ensure the gentle and effective cleansing experience. The overall experience show that the soap is also used for skincare and hair care for Dandruff, itchiness, hair growth and for shine and luster and it provide the therapeutic effect.

#### 4.1 Future Scope of herbal soap

##### 1. Therapeutic Applications

- **Acne treatment:** investigate the soaps potential in treating acne and other skin condition.
- **Wound healing:** explore the soap's ability to aid in wound healing and tissue repair.
- **Anti aging:** research the soap's potential anti aging benefits such as reducing fine lines and wrinkles.

##### 2. Market Expansion

- **Online marketplaces:** sell the herbal soap through online market places like Amazon, Flipkart.
- **Speciality Stores:** Partnership with specialty stores that focus on natural and organic products
- **International markets:** Get opportunities to export it to different countries for growing demand for natural and organic products.

##### 3. Research and development

- For evaluation of soap safety and efficacy the clinical trails are conducted.
- Research new herbal ingredients and including various properties which provide the therapeutic effects and potential benefits.

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