

A Review: Herb And Herbal Soap

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Abstract:

Herbal soap is a natural alternative to regular soap, made from plant-based ingredients and botanical herbs. Its popularity has grown because it is gentle on the skin and better for the environment. Since herbal soaps avoid harsh chemicals and artificial fragrances, they are a great option for people with sensitive skin. These soaps are also eco-friendly because their ingredients are biodegradable and do not harm the environment. Most herbal soaps are cruelty-free as well, containing no animal products or by-products, which makes them an ethical choice for conscious consumers. The herbs used in herbal soap provide many benefits. They can calm and heal the skin, add a natural scent, and even help reduce stress through aromatherapy. Many of the natural ingredients have antibacterial, antifungal, and anti-inflammatory properties, making them useful for managing skin issues such as acne, eczema, and psoriasis. Herbal soaps come in many scents and formulas, so it's easy to find one that fits your needs. Common ingredients include lavender, chamomile, peppermint, rosemary, lemongrass, tea tree, calendula, oatmeal, aloe vera, clove, neem, turmeric, sage, and comfrey. Each herb has unique qualities that support healthy skin and overall well-being. As more people look for safe, chemical-free personal care products, herbal soap continues to grow in popularity as a gentle, effective, and environmentally friendly option.

Keywords: Herbal Soap; Herbs; Skin care; Natural, Cleansing

Introduction:

Soap is a common cleaning product used by almost everyone. It is usually made from sodium salts of natural fatty acids. When potassium is used instead of sodium, the soap becomes softer and produces a gentler lather. Soap is created through a process called saponification, where fats or oils react with a strong alkali such as sodium hydroxide or potassium hydroxide. This reaction produces glycerol and fatty acid salts, which form the soap.

Many people are unaware of the long-term effects of using commercial soaps. Research has shown that some commercial products contain chemicals that may be harmful to the body over time. These soaps often include artificial substances that can irritate or damage the skin.

Because of this, herbal soaps are considered a healthier option. They are made from natural herbs and plant-based ingredients that are gentle on the skin. Herbal soaps usually have antibacterial, anti-aging, antioxidant, and antiseptic properties. They do not contain synthetic dyes, fragrances, fluoride, or other additives that are commonly found in commercial soaps.

The herbs used in herbal soaps are rich in essential oils, vitamins, and minerals, which help nourish and protect the skin. These soaps are known for their calming, refreshing, and healing effects, making them a

good choice for people with dry or sensitive skin. Some herbs naturally add color to the soap, while others help reduce stress through their pleasant scents.

Overall, herbal soaps provide a safe, natural, and skin-friendly alternative to chemical-based commercial.^{1,2,3,4,5,6}

Benefits of Herbal Soap

1. Cleansing and Detoxifying

Herbal soaps help remove dirt, dead skin cells, excess oil, and other impurities that clog the pores. Natural cleansing ingredients such as coconut oil, sesame oil, and palm oil are commonly used. These plant-based oils clean the skin effectively while keeping it nourished.

2. Soothing and Calming

Many herbal soaps contain herbs known for their calming and healing properties. Ingredients like chamomile, lavender, calendula, and aloe vera help reduce redness, irritation, and inflammation. They are especially helpful for people with conditions such as eczema, psoriasis, or sunburn.

3. Moisturizing the Skin

Herbal soaps often include natural moisturizers that keep the skin soft and hydrated. Ingredients like vegetable glycerin, sorbitol, rose water, jojoba oil, aloe vera, and iris extract help lock in moisture. These oils create a protective barrier that prevents dryness and keeps the skin smooth, supple, and glowing.^{7,8}

4. Anti-Aging Effect

Many herbal soaps are rich in antioxidants from ingredients like green tea, rosemary, and turmeric. Antioxidants help fight free radicals—the main cause of premature aging. As a result, herbal soaps can help reduce fine lines, wrinkles, and dullness, keeping the skin youthful and healthy.

5. Antibacterial and Antifungal Protection

Many herbal soaps contain natural ingredients such as neem, tea tree oil, turmeric, and clove, which have strong antibacterial and antifungal properties. These ingredients help prevent infections, reduce acne-causing bacteria, and keep the skin clean and healthy without the use of harsh chemicals.

6. Natural Fragrance and Aromatherapy Benefits

Herbal soaps often contain essential oils from herbs like lemongrass, peppermint, rosemary, and lavender. These natural scents not only smell pleasant but also provide aromatherapy benefits. They can help improve mood, reduce stress, boost relaxation, and create a refreshing bathing experience.

Commonly used Herbs in the making herbal soap:

Varieties of herbs are used in the making of herbal soap

1. Neem

Neem leaf extract contains helpful natural compounds such as **quercetin**, **β-sitosterol**, and several **limonoids**, all of which have strong germ-fighting abilities. Neem oil also has natural antibacterial power, which helps clean the skin deeply. Because neem has both **antibacterial** and **antifungal** properties, it is very effective for treating different types of skin infections.⁹

❖ Properties of Neem Powde.

1. Antibacterial – kills acne-causing germs

2. Antifungal – controls dandruff and fungal infections

3. Anti-inflammatory – reduces swelling and redness

4. Antiseptic – helps clean wounds

5. Detoxifying – removes impurities from skin



Fig no1. Neem Powder

❖ **Synonyms**

Azadirachta indica

Indian Lilac

Margosa Tree

Nimba (Ayurveda)

Arishta

Neem Leaf / Neem Oil / Neem Bark (depending on plant part)

❖ **Biological Source**

Neem consists of the dried leaves, bark, seeds, and seed oil obtained from *Azadirachta indica* A. Juss., belonging to the family Meliaceae.

❖ **Chemical Constituents**

1. Limonoids (Tetranortriterpenoids)

Azadirachtin (primary active constituent)

Nimbin

Nimbidin

Nimbolide

Salannin

Gedunin

Azadirone

2. Other Constituents

Fatty acids (oleic, stearic, palmitic acids in neem oil)

Polysaccharides

Proteins.

❖ Uses of Neem Powder

● For Skin

1. Reduces acne and pimples
2. Controls oiliness
3. Helps lighten dark spots
4. Soothes itching and rashes

2. Turmeric

Turmeric powder is a bright yellow spice made from the dried and ground rhizomes (roots) of the turmeric plant (*Curcuma longa*). It is commonly used in cooking, home remedies, skin care, and herbal cosmetics.⁹

❖ Benefits of Turmeric Powder

1. Anti-inflammatory

Reduces swelling and pain

Helpful for joint pain, muscle pain

2. Antibacterial & Antifungal

Protects skin from infections

Used in herbal soaps, face packs, and creams

3. Antioxidant

Slows down aging of skin

Removes toxins from the body

4. Skin Brightening

Reduces dark spots

Gives natural glow

Useful in ubtan, face masks, and soaps

5. Immunity Booster

Helps fight common cold, sore throat

Often used with milk ("Haldi doodh")



Fig no.2 Turmeric Powder

❖ Synonyms:

Curcuma

Haldi

Haridra (Ayurveda)

Indian Saffron

Yellow Root

Halad

❖ Biological Source.

Turmeric consists of the dried rhizomes of

Curcuma longa Linn.,

belonging to the family Zingiberaceae.

❖ Chemical Constituents

1. Curcuminoids (Main Active Constituents)

Curcumin (principal yellow pigment)

Demethoxycurcumin

Bisdemethoxycurcumin

2. Volatile (Essential) Oils

Turmerone

Atlantone

Zingiberene

Phellandrene

❖ Uses of Turmeric.

1. Cooking spice & natural food colour
2. Herbal soaps (gives colour + antibacterial effect)
3. Face packs and scrubs
4. Ubtan for bridal glow
5. Wound healing paste with water or ghee
6. Turmeric capsules/tablets in Ayurveda
7. Anti-acne creams and lotionss

.3.Aloe vera:

Aloe vera which help to the skin soft, moisturized and hydrated. Aloe vera work on skin problems like wrinkles, dark spots, marks and pigmentation. It help in wound healing and reducing swelling or inflammation. these saponins clean the skin and provide antiseptic properties, helping to kill germs.⁵



Fig no.3 Aloe Vera

❖ **Synonyms**

Aloe barbadensis Mill. (most commonly used synonym)
Aloe perfoliata var. *vera* L.

Aloe indica Royle

❖ **Biological Source**

● **Plant Source**

Botanical name: *Aloe vera* (L.) Burm. F
Family: Asphodelaceae (formerly Liliaceae)
● **Parts used.**
Leaf gel (inner parenchymatous tissue)
Leaf juice (latex) — yellow bitter exudate from pericyclic cells beneath the rind

❖ **Chemical Constituents of Aloe vera**

1. Aloe Gel Constituents (inner leaf gel)
2. Polysaccharides
3. Acemannan (main bioactive polysaccharide)
4. Glucomannan
5. Mannose-6-phosphate
6. Vitamins
7. Vitamin A, C, E
8. B-complex, folic acid
9. Minerals
10. Calcium, magnesium, zinc, potassium, seleniu

❖ Benefits at a Glance

1. Natural moisturizer

2. Heals wounds and burns

3. Reduces infection

4. Anti-aging properties

5. Improves hair strength

6. Good for digestion

❖ Uses of Aloe Vera

● Skin Care

1. Treats sunburn and reduces redness

2. Keeps skin soft, smooth, and moisturized

3. Helps in acne reduction

4. Reduces scars and pigmentation slowly

5. Good for dry, sensitive, or irritated skin

4.Lavender

Lavender is a well-known herb used in many herbal soaps because of its calming and soothing nature. Its natural fragrance helps the mind and body relax. Lavender is gentle on the skin and helps reduce irritation, redness and stress.

Because of its smooth and relaxing effect, lavender is a popular choice in nature.¹⁰



Fig No.4 Levander oil

❖ **Synonym**

Lavandula
Common lavender
True lavender
English lavender (commonly used name)

❖ **Biological Source**

Lavender is obtained from the dried flowers of *Lavandula angustifolia* (family: Lamiaceae). Other species like *Lavandula officinalis* and *Lavandula latifolia* are also used for oils and herbal preparations.

❖ **Parts Used**

1. Flowers (most commonly used for oil extraction, teas, and medicinal purposes)
2. Leaves (sometimes used for fragrance and mild herbal uses)

Essential oil (distilled from the flowers)

❖ **Chemical Constituents of Lavender**

1. Linalool – responsible for calming and relaxing effects
2. Linalyl acetate – contributes to its soothing aroma
3. Cineole (Eucalyptol) – helps with respiratory benefits
4. Camphor – provides mild stimulating and analgesic properties
5. Lavandulol & Lavandulyl acetate – add to fragrance and therapeutic effects
6. Tannins – have mild astringent properties
7. Flavonoids – antioxidant compounds

❖ **Benefits of Lavender**

1. Reduces stress and anxiety
2. Improves sleep
3. Relieves headaches
4. Supports skin healing

5. Aids digestion
6. Antimicrobial effects

❖ **Uses of Lavender**

1. Aromatherapy for relaxation and stress relief
2. Treatment for insomnia
3. Applied on skin for wound healing
4. Used in balms for headaches and muscle pain
5. Found in soaps, lotions, perfumes, and shampoos
6. Used in skin care for its soothing and anti-inflammatory effects
7. Lavender flowers used to flavor teas, baked goods, desserts, and syrups
8. Lavender honey and lavender sugar are common products
9. Added to potpourri, room sprays, and sachets for fragrance
10. Used to keep insects away due to its scent

6. Rosemary

Rosemary (*Salvia rosmarinus*) is a fragrant evergreen herb native to the Mediterranean region and widely valued for its strong, refreshing aroma and versatile uses. It has needle-like leaves and belongs to the mint family.¹⁰



Fig no.5 Rosemary

❖ **Synonyms**

Rosmarinus
Garden rosemary
Compass plant
Dew of the Sea (traditional name)
Salvia rosmarinus (current scientific name; formerly *Rosmarinus officinalis*)

❖ **Biological Source**

Rosemary consists of the leaves and flowering tops of *Salvia rosmarinus* (formerly *Rosmarinus officinalis*), belonging to the family Lamiaceae.

❖ **Parts Used**

1. Leaves (primary part used in medicine and cooking)
2. Flowering tops
3. Essential oil (distilled from leaves and flowers)

❖ **Chemical Constituents**

Rosemary contains a variety of aromatic and therapeutic compounds:

1. Essential Oil Components

- I. 1,8-Cineole – respiratory support, antimicrobial
- II. Camphor – stimulating, warming effect
- III. Alpha-pinene – anti-inflammatory
- IV. Beta-pinene – contributes to fragrance
- V. Bornyl acetate – calming, aromatic

2. Non-volatile Compounds

- I. Rosmarinic acid – strong antioxidant and anti-inflammatory
- II. Carnosic acid – powerful antioxidant
- III. Carnosol – protects cells and reduces inflammation
- IV. Flavonoids – overall antioxidant activity
- V. Triterpenes – supportive for immunity and healing

❖ **Benefits of Rosemary**

1. Improves memory and concentration
2. Supports digestion
3. Strong antioxidant and anti-inflammatory
4. Promotes hair growth
5. Antimicrobial effects
6. Pain relief
7. Respiratory support

❖ **Uses of Rosemary**

1. Rosemary tea for digestive problems
2. Aromatherapy for stress relief and better focus
3. Hair oils for growth and dandruff reduction
4. Topical balms for pain relief
5. Steam inhalation for cough and congestion
6. Seasoning for meats, vegetables, and soups
7. Added to breads, marinades, and sauces
8. Used to infuse oils and vinegars
9. Found in shampoos, serums, and conditioners
10. Added to creams and lotions for antioxidant benefits
11. Used in perfumes and soaps for fragrance
12. Natural insect repellent
13. Used in potpourri and aroma diffusers

Basic Requirements of Skin Care:

a) **Cleansing Agents**

Cleansing is essential for removing dirt, dead skin cells, and other impurities that block the skin's pores. Natural oils such as coconut, sesame, and palm oil are frequently used as gentle and effective cleansers.

b) **Toners**

Toners help firm the skin and provide a protective barrier against airborne pollutants and other

environmental contaminants. Herbal toners commonly make use of ingredients like witch hazel, geranium, sage, lemon, ivy, burdock, and various essential oils.

c) Moisturizers

Moisturizing keeps the skin hydrated, allowing it to stay soft, smooth, and flexible. Well-moisturized skin appears healthier and tends to age more slowly. Examples of natural moisturizers include vegetable glycerin, sorbitol, rose water, jojoba oil, aloe vera, and iris extract.¹¹⁻¹⁷



Fig no.6 Skin care

The herbal remedies used for special skin problems:

Table 1- Skin Types and Their Care

Skin type	Features	SUITABLE HERBS FOR SKIN
Normal	Even skin tone, soft and smooth texture, no visible pores or blemishes, neither oily nor dry.	Pomegranate leaf juice, Herbal face packs, Sesame (Gingili) oil
Oil	Shiny, thick skin with enlarged pores, prone to acne, blackheads, and blemishes.	Aloe vera, Burdock root, Chamomile, Horsetail, Oat straw, Thyme, Lavender, Lemongrass, Licorice, Rosebuds, Witch hazel, Cucumber, Cedarwood
Dry	Low sebum production, sensitive, tight-feeling skin, prone to chapping or cracking.	Aloe vera, Olive oil, Calendula, Comfrey
Combination	Mixture of dry/flaky areas and oily areas, typically T-zone (forehead, nose, chin) is oily. Can also have wrinkles or rosacea in some regions.	Witch hazel, Menthol, Aloe vera, Turmeric, Wheat germ, Sweet flag

FORMULATION:

Ingredient	Purpose
Neem	Anti-inflammatory properties
Aloe vera	Provide moisturizing benefits
Lavender oil	Add fragrance and soothing properties
Rose water	Reduce skin redness and irritation
Soap base	Serves as the foundational base for product
Almond oil	Supplies vitamin & Nourish
Tulsi powder	Antibacterial activity

PREPARATION OF HERBAL SOAP:¹⁸

A double boiler was set up on a hot plate. The soap base was cut into small cubes for even melting.

The soap base cubes were heated in the double boiler until completely melted.

The soap base cubes were heated in the double boiler until completely melted.

The mixture was stirred thoroughly to ensure the herbal components were evenly distributed throughout the soap.

The blended soap mixture was poured into molds and left to cool at room temperature until fully solidified.

Once hardened, the soap was removed from the molds and is ready for use.

Evaluation of the Herbal Soap:

1. Organoleptic Evaluation.^{19,20}

Color: Brown or dark green

Odor: Pleasant and aromatic

Appearance: Visually appealing and uniform

2. Physical Evaluation

pH: The pH of the soap was measured using pH paper and found to be basic in nature.

Foam Retention: A 1% soap solution (25 ml) was placed in a 100 ml graduated cylinder. The cylinder was covered and shaken 10 times. Foam volume was recorded at 1-minute intervals for 4 minutes, with a standard foam height of 10 cm, and a foam persistence of approximately 5 minutes.

3. Antimicrobial Activity

The antimicrobial potential of the soap was inferred from previous studies on *Azadirachta indica* (Neem), which show that leaf, bark, and seed extracts possess significant antimicrobial activity.^{21,22}

4. Stability Testing

Accelerated stability testing was performed by storing the soap samples at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and $75\% \pm 5\%$ relative humidity for 3 months. Organoleptic properties, pH, and physical characteristics were evaluated at 0, 1, 2, and 3 months to determine the soap's stability under stress conditions.¹⁵

Limitations of Herbal Soaps:

1. Variable Quality: The formulation and quality of herbal soaps can vary widely. Some products may use lower-quality ingredients or may not provide the expected benefits, affecting their overall performance.

2. Shorter Shelf Life: Herbal soaps often lack synthetic preservatives, which can result in a shorter shelf life and potential deterioration over time.

3. Higher Cost: Due to the use of high-quality natural ingredients, herbal soaps may be more expensive than conventional synthetic soaps, making them less accessible to some consumers.²³

Conclusion:

The herbal soap was successfully formulated using natural ingredients and the double boiling method, which preserved the heat-sensitive compounds. Evaluation tests confirmed that the soap possesses desirable organoleptic properties, basic pH, good foam retention, and potential antimicrobial activity, particularly due to herbal components like neem. Stability studies indicated that the soap maintained its quality over time under accelerated conditions. Although herbal soaps may have limitations such as variable quality, shorter shelf life, and higher cost, this formulation demonstrates that natural ingredients can effectively produce a safe, moisturizing, and aromatic soap suitable for regular use. The study highlights the potential of herbal ingredients in skincare, combining traditional remedies with modern soap-making techniques.

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