INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: https://www.ijpsjournal.com

OPEN ACCESS

Review Article

Neem, *Aloe vera* and Camphor - Based Herbal Soap: Comprehensive Review of Formulation and Evaluation

Bhoomi Murekar*, Aditi Kachave, Rima Khade, Dr. Shriram Bairagi

Bachelor of Pharmacy, Yashodeep College of Pharmacy, Saralgaon, Murbad 421401.

ARTICLE INFO

Published: 18 Nov 2026
Keywords:
Aloe vera, Herbal, Soap, Neem, Polyherbal, Skin care
DOI:
10.5281/zenodo.24333520

ABSTRACT

Soap is the simplest and regularly used cosmetic all over the world. It's a cosmetic with is used by peoples from all walks of life. The presence study aimed to formulate and evaluate a polyherbal soap containing Neem oil (Azadirachta Indica), Aloe vera (Aloe Barbadensis Miller), Rice water (Oryza Sativa), Camphor (Cinnamomum Camphora) which are well known for their antifungal, antibacterial, anti-inflammatory moisturizing, skin brighten and skin protective activities. Herbal soap does not have side effects like ithiching and allergic reactions, without side effect it gives fairness look to skin. The prepared formulation, where evaluated for physicochemical parameters including appearance, pH, foam height, skin irritation, moisture content assessment and lathering ability analysis. Results indicated that the formulated polyherbal soap exhibited favourable characteristics, including positive feedback regarding skin feel and appearance. The finding indicates that this polyherbal soap is promising natural alternatives to standard antibacterial soaps, promoting both skin hygiene and wellness. This study suggests that polyherbal formulations could offer holistic approach to skin care.

INTRODUCTION

Soaps are widely used for cleansing the skin & removing dirt, excess oils and microorganisms from the skin surface. Since the beginning of time people have employed medical plants as a form of treatment. Several diseases have been treated naturally by using the extract made from the leaves.[1]

Herbal soaps have drawn considerable attention as an alternative to synthetic cleansing bars, largely due to their natural composition, environmental compatibility and non-side effective attributes. The study begins with overview of herbal soaps. The main objective of this work is to formulate and evaluate polyherbal antifungal soap made up of natural ingredients such as Neem (Azadirachta Indica), Aloe vera (Aloe Barbadensis

***Corresponding Author:** Bhoomi Murekar
Address: Bachelor of Pharmacy, Yashodeep College of Pharmacy, Saralgaon, Murbad 421401
Email : murekarbhoomi0020@gmail.comABSTRACT
Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Miller), Rice water (coryza Sativa), Camphor (Cinnamomum Camphora).[2]

1.1. Herbal cosmetics

Herbal cosmetics also known as "natural cosmetics". With the beginning of the civilization, mankind had the dip towards impressing others with their looks.

Herbal cosmetics are formulated from various cosmetic ingredients to form a base on which one or more herbal ingredients are used to treat various skin conditions. The topical application of juice and extracts from plant leaves is utilized for their anti-microbial and anti-inflammatory properties.

Herbal soaps preparation posses anti-acne and anti-oxidant properties which contains different parts of plants such as leaves, stem, roots and fruits to treat injuries or disease and to accomplish good health.[3]

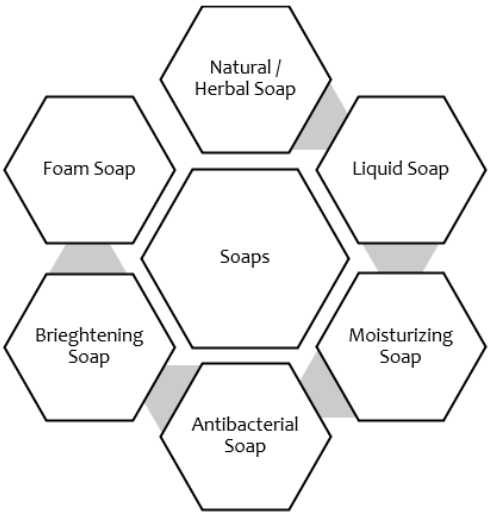
1.1.1. Application of Herbal products in cosmetics

- Herbal Skin Care Products: Herbal soaps, Lavender silk soaps, lotions, creams, body powders, skin care creams.
- Herbal Hair Care Cosmetics: Henna, Awla, Shikakai, Brahmni, Bhringraj, Guar Gum.
- Herbal Lip Care Cosmetics: Herbal Lipsticks, Herbal Lip Gloss, Herbal lip balms
- Herbal Eye care Cosmetics: Eye make-up, Eye shadow, Eye liners, Eye loss.
- Herbal Oils: Herbal oils are effective for baldness, falling of hair, thinning of hair, etc.[4]

1.2. Soap:

Soap is the simplest and regularly used cosmetic which used by peoples from all walks of life. Soap has become a necessary commodity in day-to-day life. The Romans used a type of clay found near Rome called "Sapo" from which the word soap is derived. Soap play an essential in removing dirt, sweat, microorganism and excess oil from the skin. Soaps can also provide additional benefits such as moisturizing maintaining cleanliness, preventing infections.[5]

1.2.1. Types of soaps[6]



1.3.Herbal soap

It is a preparation is a medicine or drugs it contains antibacterial and antifungal agents which mainly uses of part of plants such as leaves, stem, roots, and fruits to treatment for an injury or disease.

The variety of soaps properties have been used to treat various skin disorders mostly skin infections are caused by fungi, streptococcus species. Juice and /extract from leaves of plants are topically are applied as anti-microbial and anti - inflammatory agents in treatment of skin diseases including eczemas, ringworm & pruritus. [7]

Herbal soap should not contain artificial colours, flavours, fluorides etc., when compare to the contain of commercial soap. Herbs are natural products mostly found in the treatment of almost all skin diseases and skin problems owing to their high medicinal value, cost effectiveness and availability.[8]

1.3.1. Concepts of polyherbal formulations

The selected individual plants contain Neem, Aloe vera, Camphor.In majority of traditional system diseases are better manage by the herbs combination (Polyherbal) instead of single herb because of synergism effect and less side effects.

The anti-inflammatory activity of the individual components of polyherbal formulation:

Neem has traditionally used for anti-inflammatory action, it contains several bioactive compounds such as flavonoids and phenolic compounds that may reduce inflammatory responses associated with irritated skin.

Aloe vera preparations and constituents have been reported to influence inflammatory mediators such as COX-2, TNF-a etc, it provides soothing or anti-inflammatory action and complement the cleansing action of the soap.

Camphor has been used for anti-inflammatory or analgesic effect, it provides cooling sensation and topical anti-inflammatory activity.[9]

1.3.2.Types of herbal formulation



1.4.Overview of Herbal soap

Herbal soap production is a form of medicine with antibacterial, anti-aging, antioxidants, antiseptic qualities. It does not contain artificial colouring, flavouring, other ingredients. Almost all disease and skin issues can be treated with herbs because they are natural items with great therapeutic value, affordability, accessibility and compatibility.

1.4.1.Advantages of herbal soap

It is gentle on the skin, Natural ingredient and Chemical – free. It is Environmental friendly. It has benefits of aromatherapy [10]

MATERIALS AND METHODS

Table 1: Materials and It's Sources[11]

Material	Sources
Neem	Neem pills are collected from ripe fruits obtained from Local market.
Aloe vera	Aloe vera juice is obtained by striping away the outer leaf Rind-Rinsing.
Rice water	Rice water is a product from Rinsing, soaking or boiling Rice.
Camphor	Naturally sourced from the wood and bark of the Camphor Lauryl Tree

Table 2: Material and It's Function[11]

Sr. No.	Material	Functions
1.	Aloe vera	Provide deep moisturization, improves skin hydration & skin healing properties
2.	Neem	Provides antibacterial & antifungal activity, helps in treating skin infections
3.	Rice water	Provide in natural glow helps to bright skin
4.	Camphor	Functions act as deodorant & cooling sensation, Antifungal activity
5.	Sodium hydroxide	Saponification
6.	Lavender oil	Provide fragrance
7.	Vitamin-E capsule	Improve skin texture
8.	Glycerine soap base	Humectant property

Sr. No.	Name of the Plant	Common name	Part used	Active constituents Class	Uses
1.	Aloe barbadensis mill	Aloe vera	Inner Leaf Pulp & Gel	Polysaccharides, Vitamins (A, C, E, B-Complex) Aloin, Barbaloin	Purgative, anti-spasmodic, prevent malignancy & ulceration
2.	Azadirachtin Indica	Neem	Leaves	Oleic acid, steric acid, Nimbin, Nimbidin, Flavonoids, Tannins, Essesntial oils	Antimicrobial, Anti-inflammatory & Antiviral used as medicated soaps for skin diseases
3.	Oryza sativa	Rice water	Water	Amino acids, Vitamin B & E, minerals & antioxidants	Prevent dark circles, gives natural glow to skin
4.	Cinnamomum Camphora	Camphor	Powder	Ketones, Borneal, Cineole, Camphene & Limonene	Cooling sensation, antimicrobial & anti-fungal
5.	Alpha-Tocopherol	Vitamin-E	Capsule	Tocopherol (alpha, Beta, gamma)	Natural moisturizer, reduced skin damage, improve skin texture & reduces hyper pigmentation
6.	Lye	Sodium Hydroxide	Powder	-	Used as alkali metal hydroxide as saponifying agent
7.	Lavandula angustifolia mill	Lavender oil	Oil	Terpenes, alcohols, aldehydes & ketones	For fragrance, antimicrobial & enhance therapeutic value

Table 3: List of crude drugs used for cosmetic purpose[11]

3. DRUGS & ADDITIVES :-

1] ALOE VERA

The name ‘Aloe’ comes from Arabic “Alloeh” which means shining bitter substances and name “Vera” comes from ‘Latin’ word it means “True”.[12]



Figure_1. ALOE VERA (Aloe Barbadensis Miller), a medicinal plant widely used for its soothing, moisturizing and skin-protective properties in herbal skincare formulation.

Botanical Classification :-

- Kingdom :- Plantae
- Class :- Liliopsida
- Order :- Liliales
- Genus :- Aloe
- Species :- Vera

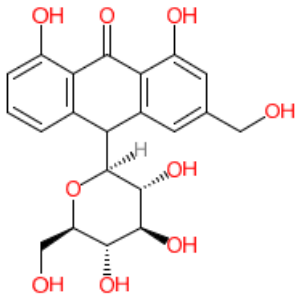
Synonym: Aloe, Mussab bar

Biological Source :- It is derived from tropical cactus of the Aloe Genus.

Family :- Asphodelaceae (Liliaceae)

Chemical Constituents :-

Aloe may contain 30% Aloin which is mixture of 3-isomer :- Barbaloin, Beta-Barbaloin & Iso-Barbaloin. [12]



Aloin

Cosmetic Applications :-

Aloe vera is also proved to be a best remedy over the skin disease. It also used as moisturizer for oily skin. Application of aloe gel to skin will makes it look radiant. It has cleansing, soothing and nourishing properties. It removes the dead skin & promotes collagen to prevent wrinkles.[12]

Role In Soap :-

It is primarily used for moisturizing, soothing and/ skin conditioning agent. It's bioactive constituents help with cleansing and improve overall skin. It's properties of antioxidant and anti-inflammatory making it useful ingredient in polyherbal soap formulation. In this formulation aloe vera can complement the antimicrobial role.

Medicinal Uses:-

It helps to cure regular problems like cough, cold, indigestion, cuts etc. It can also pure arthritis, insomnia, ulcers, infection, constipation etc. It is used as purgative. It is an ingredient of compound tincture of benzoin. It has anti-inflammatory properties. It is also famous for antifungal and antibacterial properties.[13]

Advantages:-

It is Natural and safe, Suitable for all skin types and it Provides instant soothing effect. Enhances therapeutic value of formulations.

2] NEEM

Neem has been cherished for centuries in Ayurveda, Unani and Siddha system of medicines. Every part of the Neem tree from its leaves to its seeds carries remarkable medicinal power.[14]



Figure_2. NEEM (Azadirachta Indica)leaves, known for their medicinal properties and traditional use in herbal skincare formulation.

Botanical Classification:-

- Kingdom: Plantae
- Class: Magnoliopsida
- Genus: Azadirachta
- Species: Azadirachta Indica

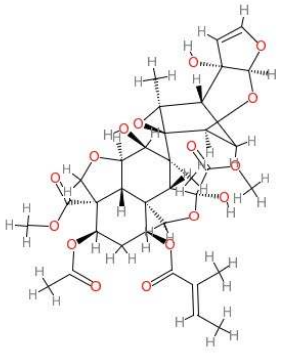
Synonym:- Margosa, Holy tree

Biological Source :- Obtained from fully matured seeds of Azardirachta Indica Juss, Collected late in Summer.[15]

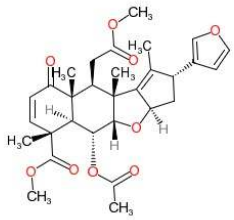
Family :- Meliaceae

Chemical Constituents :-

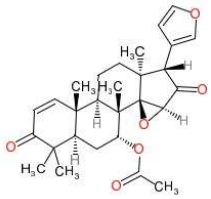
It contain a complex tetranortriterpenoid limonoid called Azadirachtin. It contains Oleic acid 50% & Steric acid 20%. The oil contains 2.0% of bitters, which are Sulphur containing compounds Nimbidin, Nimbin, Nimbinin and Nimbidol.



Azadirachtin



Nimbin



Nimbinin

Cosmetic applications :-

It promotes wound healing as it is antibacterial & astringent. In psoriasis it reduces itching, irritation, roughness of skin & heals the psoriatic patches. It is also effective against many skin diseases such as pyorrhea (periodontitis), bleeding gums & sore throats. It is also used in different lotions, paste & toothpaste. Neem oil offers moisturizing & restructuring properties & is now widely used in cosmetic industry.[15]

Plant parts used:-

1] Wood

It is heavy, stable and resembles in appearance. It is moderately resistant to fungi & repugnant to most borers but difficult to impregnate with preservative.

2] Bark

It is rough with grey colour. It is beneficial in malarial fever and also show mild inhibitory activity against certain strains.

3] Leaves

Leaves pastes is useful in ulceration caused by cow pox. They are used to prepare a very effective medicine for leukoderma. An aqueous extract of leaves is used as antiviral in viral diseases.

4] Fruits

Fruit is used as tonic, antiperiodic, purgative and emollient as anthemintic. It is beneficiary in urinary disease & in the treatment of piles.

5] Kernel

The powdered kernel when mix with wheat, protects it against rice weevil, lesser grain borer.[16]

Role in Soap :-

Neem is incorporated into herbal soap as a biological herbal active ingredients. It's leaves & other plant parts contains flavonoids, tannins, phenolic compounds & other bioactive constituents. Neem has been investigated for antimicrobial, anti-inflammatory & antioxidant activities, making it a promising ingredients for skin cleansing formulations. It provides the main pharmacological or herbal component of the polyherbal soap.

Medicinal Uses:-

Posses antiviral activity, used as medicated soaps from Skin diseases, Spermicidal. It is used as anti-inflammatory, antiarthritic, antipyretic, antifungal, antimalarial, antibacterial, hypoglycemic, spermicidal & diuretic properties.[17]

Anti-Fungal property of Neem:-

Fungicidal properties of neem extracts are promising and significantly reduced conidial germination in several fungi. The extracts of Azadirachta indica from bark and leaf, inhibited both spore germination and mycelial growth of Epidermophyton floccosum, Microsporum gypseum and Trichophyton mentagrophyte.

Neem leaf is an essential ingredient of many Ayurveda medicines. Gedunin and nimbidol are found in the leaves of neem, are shown powerfulantifungal activity in various fungal infections in humans. Traditional forms of medicine practiced for centuries in Africa and Asia has been reported that, the leaf extract of Azadirachta Indica posses wound healing activity.

Azadirachta indica or Neem, is one of the most versatile medicinal plant having a wide spectrum of biological activity and has become a cynosure of modern medicine.[18]

Advantages:-

It is Natural and eco-friendly, Multifunctional (antimicrobial and anti-inflammatory) agent. It suitable for oily and acne-prone skin. Easily available and cost-effective.

3] RICE WATER

Rice contains all of the essential Nutrients & Minerals. It is customary to wash before cooking & to discard the washed rice water. In this review the authors would like to highlight some of the important aspects of rice-washed water, which has been used for variety of purposes.

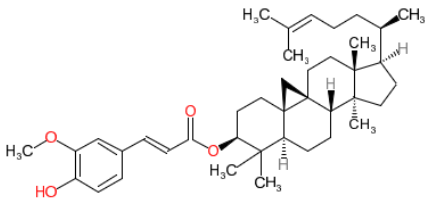


Figure_3. RICE WATER, derived from rice (Oryza Sativa), traditionally used in haircare and skincare formulation.

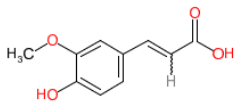
Biological Source :- Oryza Sativa & Oraya galleria.

Family :- Poaceae

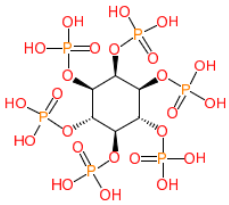
Chemical Constituent :- The most important active constituent is Amino acids, Vitamin B & E, Minerals and Antioxidant and Rice bran. The hard outer layer of the husk is reach in ferulic acid, Gamma oryzanol & Phytic acid.[19]



Gamma oryzanol



Ferulic Acid



Phytic Acid

Antimicrobial Activity :-

The antimicrobial activity was screened against pseudomonas aeruginosa, aspergillus brasiliensis & E-coli.

Cosmetic Application :-

Rice washed water along with nasya & strotonjana, was used in one of them for breast enlargement & shape. With the help of some herbals & fermented products, a non-stimulating antiaging soap was created. This soap's main ingredients & base was fermented rice washed water. Fermented rice water contains traces of kojic acid.[20]

Role In Soap Formulation :-

Rice water obtained from the washing, soaking or cooking of oryza sativa rice, contains starch & various water soluble nutrients. In herbal soap formulation it serve as supportive skin conditioning & moisturizing ingredients. It add natural, plant derived component to the formulation & support it's cosmetic positioning.

Medicinal Uses :-

For brightening skin, can help in reduce redness, itching & swelling, prevents dark circle & fade dark spots, gives natural glow to skin. It control excess oil & shrink the poures. It also boosts skin barrier health & improves skin elasticity.[21]

4] CAMPHOR

Camphor is not only the fragrant compounds, as due to its properties it has also found use in the therapy of skin diseases of bacterial and fungal etiology.[22]



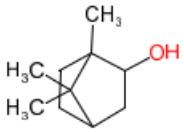
Figure_4. CAMPHOR (Cinnamomum Camphora), a naturally occuring bicyclic monoterpene ketone used in topical formulations for its characteristic aroma and cooling sensation.

Synonyms :- Karpoora, Camphora, Camphre, Gum Camphor.

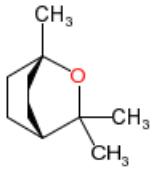
Biological Source :- It is naturally occurring bicyclic monoterpene ketone obtained traditionally from Cinnamomum Camphora.

Family :- Lauraceae

Chemical Constituents :- Bicyclic monoterpene ketone, Volatile constituents such as Borneol, Cineole, Limonene & Camphene.



Borneol



Cineole

Antifungal activities of camphor :-

Camphor possesses well established antimicrobial activity, Corroborated by an extensive & steadily growing body of literature.

Topical use of Camphor :-

Camphor oil has been used for centuries in the management of conditions like arthritis & inflammation. Camphor has long been used be topically for the relief of musculoskeletal pain associated with rheumatism. It's analgesic properties believed to provide temporary relief by stimulating local blood flow & sensory nerves.

Role In Soap Formulation :-

Camphor is incorporated into herbal soap primarily as a cooling, aromatic & topical active ingredients. It's cooling sensation can provide a refreshing feeling after application. It is also have antimicrobial & anti-inflammatory potential, which may complement the antimicrobial activity of Neem. It's strong characteristics odour can contribute to the aroma of herbal soap.

Medicinal Uses :-

Cooling sensation, Antimicrobial, Anti-fungal & other biological activities. It cleanses & protects the skin against harmful bacteria, rashes & allergies. Camphor used to treat pain, cold sores, hemorrhoids, osteoarthritis, anti-itching & to increase blood flow. It is a topical anti-tussive. It is also used as topical analgesic & anasthetic to relieve pain.[23]

5] VITAMIN E- CAPSULE

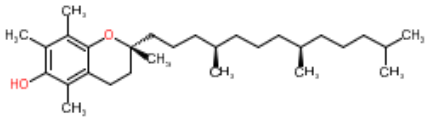
Vitamin E is a fat soluble nutrient, specifically a group of eight compound, that act as an antioxidant in body. Vitamin E capsules are commonly used for skin care. It often used to address dryness, scars & wrinkles. Vitamin E capsules are often used for their antioxidant properties reduce hyperpigmentation.[24]



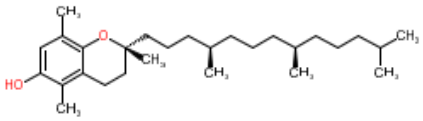
Figure_5. VITAMIN-E CAPSULE, an antioxidant commonly used in skincare formulations to help protect the skin from oxidative damage.

Biological Name :- Alpha-tocopherol

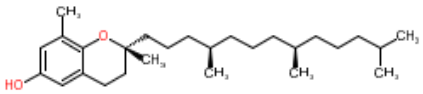
Active constituent :- The active compound of vitamin E capsule is (Alpha, Beta, Gamma, Delta) Tocopherol & (Alpha, Beta, Gamma, Delta) Tocotrienols.



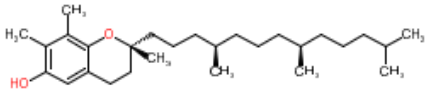
Alpha Tocopherol



Beta Tocopherol

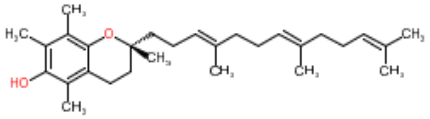


Delta Tocopherol

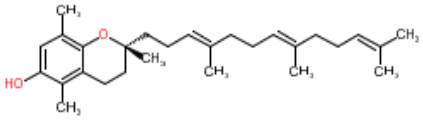


Gamma Tocopherol

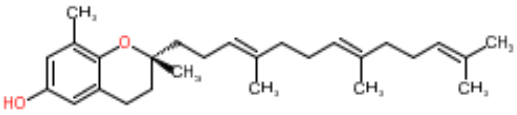
Tocopherol



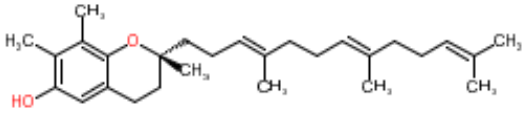
Alpha Tocotrienol



Beta Tocotrienol



Delta Tocotrienol



Gamma Tocotrienol

Tocotrienols

Uses:-

Vitamin E is a natural moisturizer can help to keep skin soft & moist. It may help to reduce skin damage from sun exposure. It also gives brightening & soothing effect. It may improve the skin texture & reduces hyper-pigmentation.[25]

6] SODIUM HYDROXIDE

Sodium hydroxide is exceedingly dangerous in its pure form, cosmetics & skin care products include very little amount of it, making them safe to use.



Figure_6. SODIUM HYDROXIDE (NaOH), alkaline agent used in soap formulation to facilitate the saponification process.

Biological Name:- Lye

Chemical Information: Sodium Hydroxide

Molecular formula: NaOH

Molecular weight :- 40g/mol

Medicinal Uses:-

Cleansers, soaps, cosmetics, creams & lotions are just few examples of products used in the beauty & skin care industries that contain sodium hydroxide to balance pH. It is used as alkali metal hydroxide for saponification.[26]

Role in Herbal Soap Formulation :-

It acts as saponifying agent, It converts oils and fats into soap and glycerine. It determines hardness and cleansing ability of soap. It is essential for forming the final solid soap bar.

Advantages :-

It is highly effective and gives fast reaction, produces foam and stables soap. It is readily available and cost effective.[27]

7] GLYCERINE SOAP BASE

Glycerine is a trihydroxy alcohol widely used in cosmetic formulations for it's humectants properties. Glycerine soap base is popular choice for making rice soap due to its moisturizing properties & ability to create a clear, appealing base. In soap bases glycerine not only retains moisture but also enhances transparency & mildness, making it suitable for sensitive skin.[28]



Figure_7. GLYCERINE SOAP BAR, a moisturizing cleansing product that helps retain skin hydration and maintain skin softness.

8] LAVANDER ESSENTIAL OIL

Lavender calms & refreshes the senses, perfect for daily use both for face & body, it cleanses deeply without drying. Suitable for all skin types.[28]



Figure_8. LAVANDER OIL (Lavendula Angustifolia), an essential oil commanly used in skincare formulations for its fragrance and soothing properties.

Botanical Classification :-

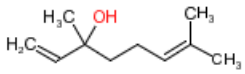
- Kingdom : Plantae
- Genus : Lavandula
- Species : Angustifolia

Synonyms:- English Lavender, Lavandula oil

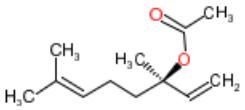
Biological source :- Essential oil obtained from flowering tops of Lavandula angustifolia mill

Family :- Lamiaceae

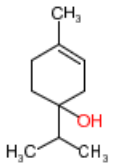
Chemical constituents:- Linalool, linalyl acetate, terpinene-4-ol



Linalool



Linalyl Acetate



Terpeinene-4-ol

Role in Herbal Soap Formulation:-

It has aromatic & calming properties (gives fragrance to the soap and enhances its calming property). It also has antimicrobial and anti-inflammatory action.[29]

4. METHODS OF PREPARATION

Step 1: Collection of drugs

Collect Some leaves of Neem and Aloe Vera, wash with distilled water. Take the rice and needed amount Camphor.

Step 2: Extract preparation

1] Extraction of Aloe Vera gel

Aloe vera gel is obtained by inner leaf pulp of Aloe barbadensis miller plant.

⬇

To extract Aloe Vera gel using hot air oven, carefully peel the leaves to expose gel layer

⬇

Use spoon or spatula to scoop out the gel.

⬇

Then drying using hot air oven.

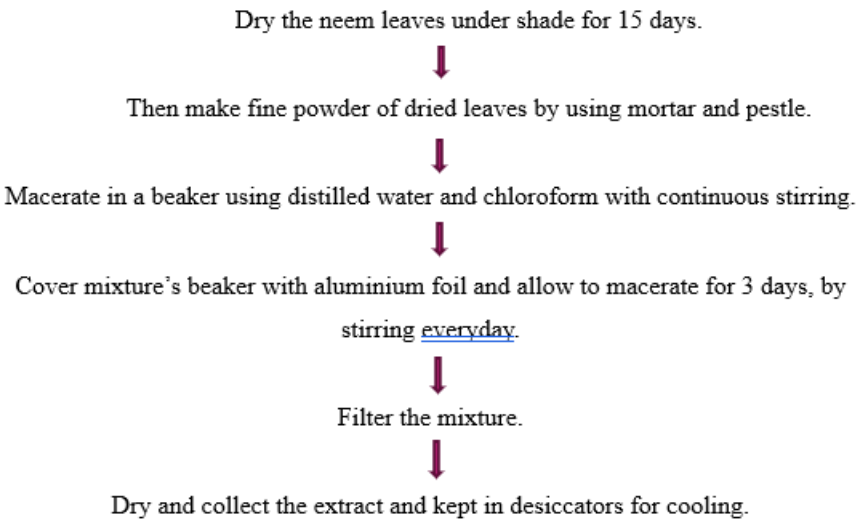
⬇

Soak the dried gel powder in solvents like ethanol or methanol for a specified period.

⬇

Filter the solution to remove any solid residue, remove solvent leaving behind extract by using evaporation method.

2] Extraction of Neem powder



Step 3: Preparation of soap base

Take q.s. of soap base and cut it into small pieces for easy melting. Melt the soap base by using a double boiler method to avoid direct overheating and burning. Maintain the temperature between 60-70°c

Step 4: Addition of herbal extract and essential oil

After melting remove the prepared soap base from heat. Add the extracted herbal ingredients one by one (Neem leaves powder, Aloe vera gel). Add lavender essential oil into the mixture of soap base.

Step 5: Preparation and Addition of alkali metal agent

Prepare NaOH solution and add this solution into mixture with continuous stirring.

Step 6: Addition of Active components

Add Vitamin-E capsule's liquid and Camphor powder into the mixture with continue stirring until all actives dissolves completely to form a homogenous mixture.

Step 6: Moulding

Select the proper mould for soap, pour the prepared soap mixture carefully into clean & dry soap moulds. Allow to cooled down at room temperature. Tap the mould gently to remove trapped air bubbles & obtain a smooth surface.

Step 7: Evaluation

The final formulation are test for physical appearance, PH, foaming, ability, antibacterial activity & stability.

Step 8: Packaging & storage

Wrap the prepared polyherbal soap in butter paper or suitable packaging material to protect it from moisture and contamination. Store the soap in cool & dry place away from direct sunlight.[30-33]

5. EVALUATION PARAMETER

1] Physical Evaluation

- **Colour:-** The colour of the soap check by visually using the naked eye to ensure consistency and the desired shade.
- **Odour:-** The fragrance of the soap is evaluate by applying a small amount to the hands and assessing the scent.
- **Shape**:- The soap should evaluate to ensure it have desired shape.
- **Appearance:-** The soap should have a smooth, uniform texture and should not have any visible cracks or imperfections.[34]
- **Weight Variation:-** Weigh the soaps using calibrated weighing balance to check weight uniformity.[35]

2] Physiochemical Evaluation

- **pH:-** Determine the pH of formulation of soap by using Digital pH meter. The measurement of pH is done in calibrated pH meter.[36]
- **Moisture Content**:- Take 5gm of sample in weight tarred porcelain dish and heat to 105°C for 2 hours in hot air oven. To determine the %moisture content, the content's weight should be recorded.[37]
- **Hardness:-** Soap hardness measure to evaluate applying pressure manually. It determines mechanical strength and durability of soap. A good herbal soap should have sufficient hardness to withstand handling and usage without breaking or deforming easily.[38]

3] Foaming Properties

- **Foam Height:-** Weigh sample of soap and dissolve it in pure water. Then pour it into a measuring cylinder after adding water to make the volume. The strokes are administered while standing until the aqueous volume get measured.
- **Foam Retention:-** Take soap solution into graduated measuring cylinder, cover the cylinder with hand and shaken for several times.

4] Washability

The washability test should perform to evaluate the ease of removal of the soap from the skin after application.[39]

5] Skin Compatibility

Patch tests are conducted on volunteers to reveal no irritation or allergic reactions, indicating excellent skin compatibility.

6] Cleansing Ability

The cleansing ability of the soap is asses by washing standardized soiled surfaces or skin and observe removal of dirt and oil.[40]

7] Microbial Testing

Microbial testing is essential to ensure the safety of herbal soaps and prevent potential contamination that could lead to skin infections or irritation. The absence of harmful microorganisms is crucial for maintaining the product's safety and efficacy.[41]

8] Stability Studies

The soap samples are store at room temperature and elevate the temperature for a specific period of time.

6. RECENT TRENDS

With increasing awareness about fewer side effects of herbal cosmetics today's generation is using herbal soaps, cosmetics and many of the herbal formulation. [42]

As per the other market trends in Ayurvedic soap or natural soap industry are also susceptible to changes.

1] Herbal and Natural Products:- People love to buy products made from herbal and natural ingredients.

2] Eco-friendly and sustainable package:- Sustainable and eco friendly packaging is trending in whole market.

3] Customisation and Personalisation:- Customising soap formulas with natural soap ingredients is trending nowdays.

4] Premium and Luxury natural herbal soaps:- Herbal soaps are made with herbs and concoction of oils and elixirs, this make them a benefiting inclusion in the category of premium and luxury soaps.

5] Herbal soaps for specific demographics:- The herbal soap market trends are not limited to including herbal soap ingredients and working on innovative formulas it can be catered to specific demographics by promoting herbal soaps benefits for specific skin issues.[43]

7. FUTURE AND GLOBAL PROSPECTS

Consumer demand for herbal cosmetics and herbal products is rapidly growing segment globally. The potential herbal soap from this study can be commercialised to improve formulation quality. The demand for herbal and natural products is increasing globally. Advances in formulation techniques and quality control can improve the stability and effectiveness of herbal soaps.

With growing consumer awareness herbal soaps are expected to play role in future of skin care and cosmetics industries.[44]

CONCLUSION

Herbal soaps represent a natural and effective alternative to synthetic soaps. They offer multiple benefits, including gentle cleansing, antimicrobial activity and environmental safety. The increasing popularity of herbal products highlights the importance of integrating traditional knowledge with modern science for better skin care solutions.[44]

For successfully formulate polyherbal soap using natural herbal extracts and for evaluate various physiochemical parameters it should includes physical properties acceptable pH and good foamability, stable foam retention and appropriate moisture content.[45]

REFERENCES

1. Sunitha R., Manjeera K., Formulation & evaluation of polyherbal soap from international journal of pharmaceutical science, 2026; vol 4, issue 7, 4000-4011.
2. Rashmi C., Nisar A., Formulation and evaluation of polyherbal soap, 2025; vol 3, Issue 9, 1950-1952.
3. Usha KR., Bhargavi G., Sandhya S., Rajyalakshmi KG., Formulation & Evaluation of Herbal Soap: A comprehensive review,2024, volume 12, Issue 2, ISSN: 2455-6211.
4. Shivanand P., Nilam M., A Review paper of Herbs Play an Important Role in the Field of Cosmetics, Jan-Mar 2010, Vol.2 No.1, ISSN: 0974-4304.
5. Shahzad MA., An update review on polyherbal formulation: A Global Perspective, 2016; 7 (1): 35-41.
6. Shivani R., Alpana K., Indrajeet K., Formulation & Evaluation of Herbal Soaps 2025, Volume 12, Issue 5, page no 421-433.
7. Kamal SR., Textbook of Cosmetics, By CBS publishers & distributors, pg.no.224.
8. Jitesh NP., Kunal P., Formulation & Evaluation of Camphor & Aloe soap, volume 12 Issue 4, 1252-1273.
9. Sayyad H., Krushna M., Munja H., An overview of formulation & evaluation of herbal soap, 2025, 2 (12), 266-271.
10. Ms. Sonali P., Ms. Manisha S., Mrs. Vinita P., Ms. Nisha H., Formulation and Evaluation of Herbal Soap, April 2024, Volume 9, Issue 4.
11. Prashant LK., Hemant RJ., Prasad T. and Anantha NN., Cosmetics Potential of Herbal Extracts, July-August 2005, Vol 4 (4).
12. Kuntal D, Herbal Plants & their Applications in Cosmeceuticals, by CBS Publishers & Distributors.
13. Kokate CK., A book of Pharmacognosy, 58th edition by Nirali Prakashan, pg.no.11.33-11.34.
14. Syed Z. & Shahidulla SM., An overview of Herbal Tooth Powder.
15. QADRY JS., A book of Pharmacognosy Sixteenth edition, by CBS publishers, pg.no. 317-320.
16. Sudipto D., Manosi D., Neem (Azadirachta Indica A. Juss): a multifaceted tree & an elixir in the traditional system of Indian Medicine.
17. Biswas SR, & Rahman MA., Neem (Azadirachta Indica): A critical review 2001.
18. Niharika A., Article of Antifungal, Contraceptive, Anti-Cancer, Mosquito Repellent Properties of Azardirachta Indica: A review, Jul 2017, Volume 2, Issue 1.
19. Joana M. & Angela N., Rice Water: A Traditional Ingredient with Anti-aging efficacy, 2018, 5,26.
20. Anuja RK., International Journal of Pharmacognosy & Clinical Research: Formulation & Evaluation of Polyherbal Soap, 2025, ISSN: 2664-763, 7 (1): 36-41.
21. Akhila C., Conventional & Scientific uses of Rice washed water: A systematic Review,2024, 61 (3): 441-428.
22. Duda M., Viscardi, Camphor the Future in Supporting Therapy for Skin Infections, Pharmaceuticals 2024, 17, 715.
23. Anam S. & Mazeyar PG., Camphor's Therapeutic uses & Potential Hazards: An In-Depth Review of its Medicinal Applications, 2026,31,648.
24. Prajakta S., Prajakta K., Pranita D., Formulation and Evaluation of Herbal soap, 2025, Vol 3, Issue 6, 71-72.

25. Francesca G., Silvia S., Vitamin E: A review of Its Application and Methods of Detection When Combined with Implant Biomaterials, 2021, 14, 3691.
26. Omkar SB., Dnyaneshwar VB, Piyush MJ., Yogesh SB., Formulation & Evaluation of Herbal Soap, 2023, Volume 5, Issue 3, ISSN: 2582-2160.
27. Sneha G., Sakshi G., Omkar G., A Research on Formulation and Evaluation of Herbal Soap ,2026, Vol.4, Issue.8, 2688-2702.
28. N. Kumara Swamy, Naga Subramanyam, UPI Journal of Pharmaceutical Medical & Health Sciences: Formulation of Soap using Oryza Sativa, ISSN: 2581-4532, 8 (3), 2025: 33.
29. Prakash S. & Sagar S., A Review of Antifungal Herbal Scrub Soap, 2026 3 (4), ISSSN: 2394-7063.
30. Manthan S., Shubham M., Formulation and Evaluation of Herbal Soap, 2026, Vol.4, Issue 6, 2047-2057.
31. Vishaka K., & Vidya G., Formulation & Evaluation of Polyherbal Soap,2026, ISSN:2583-6544, 5 (6): 77-85.
32. Swapnil T., Sachin B., Sainath G., Formulation and Evaluation of Aloe Vera Soap, 2025, Vol 3, Issue 11, 1877-1886.
33. Varsha KG., Formulation and Evaluation of Herbal Neem Soap
34. Jagdish SK., Rohan PS., Shital PK., Development and Evaluation of natural polyherbal soap, 2025, 21 (03), 040-046.
35. Mansi S., Pratik S., Formulation & Evaluation of Polyherbal Soap Using Cold Process Method: A Novel Approach for Natural Skincare, 2026, Volume 4, Issue 5, ISSN:2984-889.
36. Walter JM., Aloe vera: from ancient knowledge to the patent and innovation landscape – A Review 2022.
37. Siddharth D., Sejal A., Sudipta S., Muskan K., Formulation and Evaluation of Herbal Soap, Journal of Pharmacognosy and Phytochemistry, 2024, 13 (4): 14-19, , ISSN: 2278-4136
38. Govind S. & Ritu Y., Preparation & Evaluation of Herbal Soap containing Aloe Vera & Tea Tree Extract for Sensitive Skin, 2026, volume 5, Issue 5, page: 1001-1008, , ISSSN: 2583-6579.
39. Mayuri NT., Rasika B., Asian journal of pharmaceutical research & development, Formulation & Evaluation of Polyherbal Anti-tanning soap, 2026; 14 (3): 84-89.
40. Sarika C. & Sapna G., International Journal of Current science (IJCSPUB): Formulation & Evaluation of Polyherbal Soap, ISSN 2250-1770, Volume 16, Issue 2026.
41. Khushi G. and Deepa C., A review on Formulation and evaluation new herbal soap, 2026; 8 (5): 245-251,
42. Dehel G., Nadeeshani DG., Rathnayaka MD., Global Perspective of Plant – Based Cosmetic Industry & Possible Contribution of Sri Lanka to the Development of Herbal Cosmetics, Volume 2022, Article Id 9940548, 2021.
43. Rohit M., Top trends in Ayurvedic Soap: What Entrepreneurs Need to Know
44. Deepshikha, Shameena, Research Article on herbal soap, 2026, Vol 4, Issue 5, 7913-7918
45. Prachi P. & Vatan G., Formulation & Evaluation of Polyherbal soap, Volume 2 Issue 2, 2026.

HOW TO CITE: Bhoomi Murekar, Aditi Kachave, Rima Khade, Dr. Shriram Bairagi, Neem, *Aloe Vera* and Camphor - Based Herbal Soap: Comprehensive Review of Formulation and Evaluation, Int. J. of Pharm. Sci., 2026, Vol 4, Issue 11, 2939-2954. https://doi.org/10.5281/zenodo.24333520