

# Formulation and Evaluation of Herbal Soap

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## ABSTRACT

herbal soap is a natural soap to conventional soap that is Often made using herbs and plant-based ingredients. The The use of herbal soap provides various benefits, such as Healing the skin, provide natural fragrance, provide Smoothing; it is made using natural ingredients that do Not harm The environment and is biodegradable. numerous chemical toxins and microorganisms present in the The atmosphere may cause chemical infection and damage to the Skin cosmetics alone are not sufficient to take care of the Skin. Herbal soap ingredients use neem, tulsi, and turmeric, neem leaf and seed were found effective against Dermatophytes, turmeric shows anti-inflammatory and Anti-bacterial properties and tulsi shows anti-viral Activity.

**Keywords:** herbal soap, cosmetics, skin health.

## INTRODUCTION

Herbal soap is a type of soap made using natural ingredients derived from various herbs and plants. Herbs such as lavender, mint, rosemary, and chamomile are commonly used in making herbal soap.

Herbal soap is known for its soothing, rejuvenating, and healing properties, making it a popular choice for people with sensitive or dry skin.

Currently, a significant number of cosmetic products are adulterated, and numerous other beauty preparations available in the market are of inferior quality, posing potential risks of side effects such as skin rashes, allergic reactions, and even the development of skin diseases [1]

Herbal soap preparations are medicines or pharmaceuticals because they include antibacterial and antifungal agents [2]

### cosmetic

This preparation possesses antimicrobial properties and is administered topically and is available to apply in various forms like creams, lotion gel, soap, solvent extract, or ointment. [3]

A variety of creams and soap properties have been used to treat various skin disorders [4]

## SKIN TYPES AND BASIC SKINCARE

The requirements for basic skincare

- Cleansing agent removes the dust, dead cells, and dirt that chokes the pores on the skin. Some of the common cleansers include vegetable oils like coconuts and palm oil.
- Use of Toners: The toners help to Lighten the skin and keep it from being exposed to many of the dust particles that are floating in the air or other environmental pollutants in our surroundings.

c) Moisturizing: Moisturizing helps the skin to become soft and hydrated.

### herbal soap

Herbal soap preparation is a medicine that contains antibacterial, anti-aging, anti-oxidant, and anti-septic properties. It mainly uses parts of plants like seeds, rhizomes, nuts, leaves, flowers, and pulps to treatment for an injury or disease or to achieve good health. [5]

Herbal soap does not contain any artificial color agents, flavor agents, fluorides, etc.[6]

Herbs are natural products mostly found in the treatment of almost all diseases and skin problems owing to their high medicinal value, cost-effectiveness, availability, and compatibility. [7]

### Most common diseases

The most common skin diseases are Eczema, Acne, Rashes, Psoriasis, Allergy, dry skin, urticaria, etc  
The herbal remedies used for special skin problems are given in Special skin problem and Herbal remedies

### Soap

Soap is a common cleansing agent well known to everyone in the world. Many authors defined soap in different ways. Warra [8] Soap can also be said to be any water-soluble salt of fatty acids containing eight or more carbon atoms.

Soaps are produced for a variety of purposes likes as washing, bathing, medication, etc. [9]

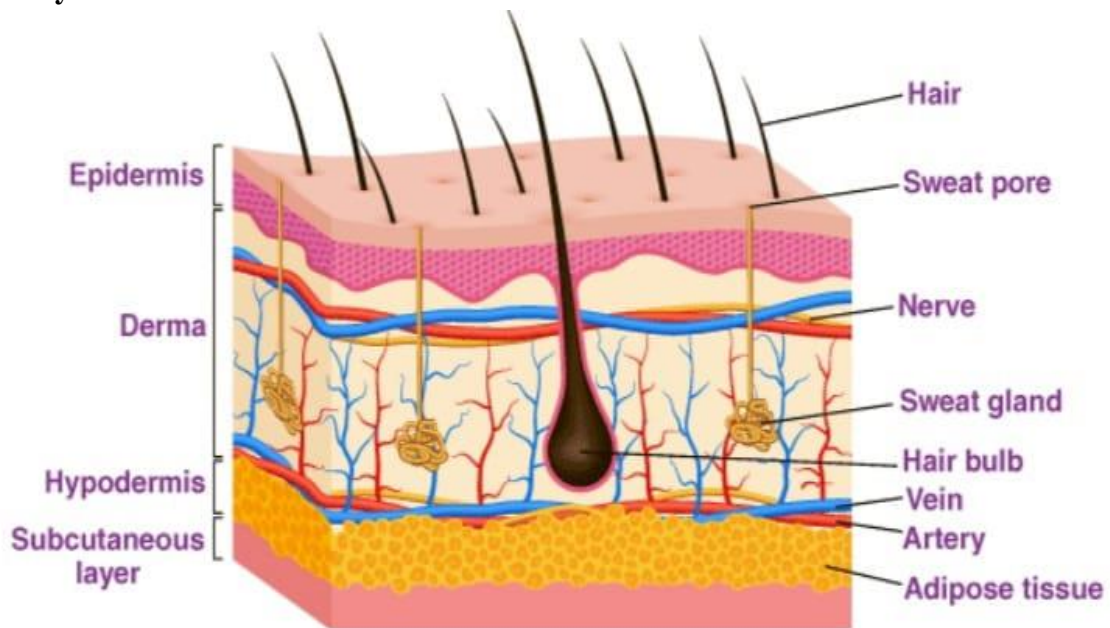
The affinity of the hydrocarbon chain to oil and grease, while the carboxylic group to water is the main reason soap is being used mostly with water for cleaning purposes [10]



### Skin

Skin is very important for all healthcare professionals to have basic information about the structure and function of human skin. Skin is also called a cutaneous membrane. In adults, the skin has a surface area ranging from 2.2m<sup>2</sup>. The skin has two types, hair-bearing skin that covers much of the body and hairless skin as that of the palms of Hands and so less of feet. Skin is the most exposed part of the body to sunlight, and environmental pollution and is also used for some protection against pathogens. [11]

skin anatomy



literature review

Review of literature	abstract
<p>1. Gulshan Kumar Mishra, Ritu Verma, Gaurav bhaduka, Rakesh Goyal (2023)</p> <p><b>Formulation And Evaluation Of Herbal Soap</b></p>	<p>Herbal soap was made by using coconut oil, rose oil, lavender oil, and NaOH (lye), and different extracts were included in the basic saponification reaction</p>
<p>2. Raja Kumar, , Md Shoaib Akhtar , Mansi Gupta (2023)</p> <p>FORMULATION AND EVALUATION OF HERBAL NEEM SOAP</p>	<p>The formulation of the herbal soap included neem, Aloe Vera, tulsi, and vitamin C The chemical ingredients of neem, also need anti-inflammatory, anti-hyperglycemic, anti-ulcer, anti-malarial, anti-fungal, and anti-bacterial. Products for skin care purposes contain tocopheryl acetate, glycerin, and vitamin C.</p>
<p>3. Amrita Majumdar, Bhavay Thakkar, Shobhit Saxena, Pradeep Dwivedi and vijaya Tripathi (2023)</p>	<p>Herbal soap is a natural plant variation of traditional soap that is frequently made using botanical plants herbs and plant-based ingredients. Some of the most commonly used herbs in herbal soap as a cleansing include lavender, chamomile</p>

<p>4. Mahipal Choudhary, Rajeev Kumar, Kailash Mahawar, Madhuri Shringirish Sanwar Mal Yadav (2023) WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH Formulation And Evaluation Of Herbal Soap Using Natural Ingredients</p>	<p>A natural cleanser and hand sanitizer were planned to utilize the leaf and bark concentrate of Azadirachta indica, Ocimum tenuiflorum, Sap Indus mukorussi, and Acacia concinna powder. . properties, neem leaves, and their constituents have been shown to display calming, antihyperglycemic,</p>
<p>5. J. Bhavani , M. Chinnathambi, S. Sandhanam , S. Jothilingam , S. Arthi and N. Monisha (2023) World Journal Of Pharmaceutical Research Formulation And Evaluation Of Herbal Soap Using Natural Ingredients</p>	<p>The homegrown cleanser was defined by utilizing leaves of neem, Aloe Vera, tulsi, vit-c, and tocopheryl acetic acid derivation ayurvedic beauty care products are exceptionally accommodating and do not donate side impacts. Ayurvedic beauty care products are too known as homegrown beauty care products.</p>
<p>6. Pius A. Skiki, Hadiza Tanin Onyibe, Basiru Olgitan (2017) Potravinarstva Slovak Journal Of Food Science A Component Study Of Physiochemical Properties And Antimicrobial Qualities Of Abused Moring S</p>	<p>They are prepared by the saponification process, which is, reacting the oil that contains triglycerides with caustic soda (NaOH) to give the soap. In the present work prepared a total ten numbers of herbal soaps by using guava and neem</p>
<p>7. Gana Manjusha K, Ravii Chandra T Balakrishnaip Syanada R, Mounik N, (2019) Asian Journal Of Pharmaceutical And Clinical Research Formulation And Evaluation Of Herbal Soap Containing Methanolic Extract Of Three Ayurvedic Varnya Herbs</p>	<p>this study aims to formulate and evaluate the herbal bath soap using methanolic extracts of three plants having ethnic and dermatological importance in Ayurveda, namely, hemidesmus indicus, cyperus rotundus, and Saussurea lappa. \nmethods: the roots of h. Indicus and s. Lappa and rhizomes of c. Rotundus were extracted with ethanol using</p>
<p>8. Jyoti Joshi, Devi P, Bhandari , Rajeswar Ranjitkar, Laxman Bhandari (2019) Journal Of Plant Research Formulation And Evaluation Of Herbal Soap Using Curcuma Zedoaria</p>	<p>The Need To Achieve And Maintain Healthy Skin Is On The Rise. This Causes the Composition Of Antioxidant Soaps With Complex Synthetic Chemicals Whose Safety On Skin And Human Health Is Still Unclear.</p>

<p>9. Janeffer Lemberg , Messias Barboza (2020) International Journal Of Pharmaceutical Science Use Of Hibiscus Sabdarital.D Rosmarinus Officinalis L. In Formulation Of Anti-Bacterial Soap</p>	<p>in principle, phytotherapy is the study of medicinal plants and their applications in the treatment and cure of diseases medicinal plants have been in use since antiquity, and their importance</p>
<p>10. Ashlesha Ghanwut , Sachin Wayzod, Vanjire Divya (2020) Journal Of Research In Pharmaceutical Science Formulation And Evaluation For Herbal Soap</p>	<p>An herbal soap and hand sanitizer were formulated using the leaf and bark extract of Azadirachta indica, Ocimum tenuiflorum, Sapindus mukorussi, and acacia concinna powder. Ayurvedic cosmetics are also known as herbal cosmetics the natural content in the herbs does not have any side effects on the human body[5] most herbal supplements are based</p>
<p>11. Dr. A Selta, Dv Sivani, (2021) International Journal Of Pharmaceutical Science Formulation And Evaluation For Herbal Soap</p>	<p>Bacterial Skin Infections Are Most Common among people, Requiring Significant Attention For Treatment And Also Maintaining Healthy Skin. Some Herbal Plant Extraction And Their Oils Were Found To Use an Antibacterial Action. The Aim And Objective Of The Present Study Are To Formulate And Evaluate Anti-Bacterial Herbal</p>
<p>12. Munde Govind Anant , Dr. Hingane L.D , Miss Shinde R (2021) Formulation And Evaluation Of Herbal Soap Using Natural Ingredients</p>	<p>The Herbal Soap Was Formulated By Using Leaf Of Neem, Aloe Vera, Tulshi, Vit-C, and Tocopheryl Acetate Ayurvedic Cosmetics are very Helpful And Do Not Give Side Effects. Ayurvedic Cosmetics Are Also Known As Herbal Cosmetics Antiinflammatory, Antihypergyasemic, Antiulcer, Antimalarial,</p>
<p>13. Devipriya Nisha P, Nivetha L, Deepak Kumar (2021) International Journal Of Pharmaceutical Scientific Formulation And Evaluation Of Herbal Soap Using Curcuma Zedoaria</p>	<p>Bacterial Infections Are Most Common In Humans. The Herbs Are Known To Possess Various Potentials for antiinflammatory, Antibacterial, And Antifungal Properties Which have been Explored For Ages And Incorporated Into Various Forms, of Human Use.</p>
<p>14. Patel Anu, Patel Anar, Patel Janhanvi, Bhuvsar Hrmal (2022)</p>	<p>The Aim Of Our Study To Develop The Herbal Hygienic Soap By Using the Cold Process Method And Having an Antimicrobial Agent. Herbal Soap Was</p>

International Journal Of Scientific Research Formulation And Evaluation Of Herbal Soap	Prepared Using Coconut Oil, Castor Oil, Neem Oil, Lavender Oil, Rose Oil, And Naoh (Lye) And Different Extracts Were Included Into Basic Saponification Reaction Content, Foaming Index,
15. Arjun Attaullah , Aruna Govindarajulu, Shafk Jasmine Shashina (2022) Asian Journal Of Biological And Life Science Formulation Of Herbal Soap Against Acne-Causing Bacteria	The Use Of Herbs On Skin Disorders Has Been Done For Thousands Of Years. Herbal Remedies are used for Many kinds of Diseases Especially Skin Disorders and Are Currently Gaining Popularity Among Patients. In Asia, Especially In South East Asian Countries, Herbal Treatments
16. Selvanani M, Surya Prakash R, Siva Shankar D, Subash K, Siva Guru M (2022) World Journal Of Pharmaceutical And Medical Research Formulation And Evaluation Of Polyherbal Soap	The Need To Achieve And Maintain Healthy Skin Is On The Rise. This Causes the Composition Of Antioxidant Soaps With involved Synthetic Chemicals Whose Safety On Skin And Human Health Is Still not known.
17. J. Bhavani N. Chinnathambi, S. Sandhanam Jothiligam, S. Arthi (2023) World Journal Of Pharmaceutical Research Formulation And Evaluation Of Herbal Soap Using Natural Ingredients	The Home Grown Cleanser Was Defined By Utilizing Leaf Of Neem, Aloe Vera, Tulshi, Vit-C, and Tocopheryl Acetic Acid Derivation Ayurvedic Beauty Care Products Is Exceptionally Accommodating And Does Not Donate Side Impacts. Ayurvedic B-Grown Beauty Care Products.
18. Gopi., S. Sandhiya, Ramya, S. Sandhiya B. Rohini, R, Reshma (2023) Ijppr Human Journal Formulation And Evaluation Of Antifungal Herbal Soap	Fungal Skin Infections Are Most Common among people, Requiring Significant Attention For Treatment And Also To Maintain Good And Healthy Skin. Some Herbal Plants Have Antifungal Activity. The Aim And Purpose Of The Present Study Is To Formulate Antifungal Herbal Bath Soap by Using Different Types of Herbal Plants.
19. Akash Walmikraa Dhakne, Mr . S. B. Deshmukh (2023) International Journal Of Innovative Research In Technology Formulation And Evaluation Of Herbal Soap	the formulation of the herbal soop Included neem leaf, aloe vera, rules, vitamin C, and Tocopheryl acetate. Ayurvedic cosmetics are highly beneficial and do not have negative side Effects. Herbal cosmetics are also known as Ayurvedic cosmetics.
20. Hari Prasath C, Divya Priya S,	It Is Commonly Used For gastronomical And Therapeutical Purposes, Which Also Has

Dhana Rangesh Kumar V. (2023) Asian Journal Of Pharmaceutical And Clinical Research Formulation And Evaluation Of Anti-Fungal	The Maximum Amount Of Health Benefits. The Main Objective is to Study the Formulation Of Antifungal Herbal
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## AIM AND OBJECTIVE

### Aim:-

Formulation And Evaluation Of Herbal Soap

### Objective:-

- The Objective Of This Work Is the Formulation And Evaluation Of Herbal Soap Using Turmeric, Neem, Tulsi, And Alovera
- The Main Objective Was To Formulated Herbal Soap Or Mediated Herbal Soap with anti-bacterial, Anti-Microbial, And Rich Antioxidant
- The Formulate Herbal Soap Having Minimum Side Effects
- The Main Purpose For the Preparation Of Herbal Soap Is To Use Natural Ingredients Instead of Synthetic Chemicals.

## NEED TO WORK

- A Pharmaceutical Or Medicated That Contains Anti Bacterial And Anti Fungal Ingredients Is Known As Herbal Soap
- Herbal Soaps Are Formulated Using Natural Ingredients To Avoid The Use Of Chemical Because the Same Chemical May Cause Side Effects But Natural Ingredients Give Minimum Side Effects
- Herbal Soaps Are Formulated Because They Are Gentle And Mild On The Skin
- There Is The Need To Formulated Herbal Soap As They Are :
- Free From Harm Chemicals
- Synthetic Fragrance
- Artificial Additives

## WORK AND SCHEDULE

### PLAN OF WORK;

Preparation Of Herbal Soap Are Carried Out By Following Steps

1. Literature Survey
  2. Collection Of Plant Materials
  3. Extraction Of Herbal Drug
  4. Formulation Of Herbal Soap
  5. Evaluation Of Test For Herbal Soap
- Ph
  - Physical Parameters
  - Determination Of Percentage Alkali
  - Foam Height
  - Anti-Bacterial Test

## OUTCOME

The Natural Component Found In Herbal Soap Posses

Anti-Bacterial,

Anti-Fungal,

Anti- Inflammatory

Properties Which Make skin Effective In Various kinds of Skin Conditions Like

Acne, Eczema, Psoriasis

Soft The Skin Epidermis Enhanced Greater Penetration Remove Acne As Well As Promote Healing And Resolution In Quickly In Time ok

## METHODOLOGY

Content Of Soap

1. TULSI:- ANTI-BACTERIAL AND ANTI-FUNGAL
2. TURMERIC:- ANTIOXIDANT
3. NEEM :- ANTISEPTIC
4. ROSE WATER: FLAVOURING AGENTS, COOLING AGENTS
5. ALOVERA:- IT SOOTHE SUNBURNS OR DRY SKIN

## TULSI

- BOTANICAL NAME :- OCIMUM TENUIFLORUM
- COMMON NAME :- HOLY BASIL.
- CHEMICAL CONSTITUENTS :- EUGENOL GERMACRATERPEN
- PART TYPICALLY USED:- LEAVES
- COLOUR :- GREEN
- PROPERTIES:- ANTIFUNGAL, ANTIBACTERIAL, ANTISEPTIC





**TUMERIC:-**

- BIOLOGICAL SOURCE:- CURCUMA LONGA
- COMMON NAME:- HALDI
- PART TYPICALLY USED:- ROOT
- EFFECT:-DARK SPOT, NATURAL GLOW, DIMINISH SCARS
- PROPERTIES:- ANTIBACTERIAL, ANTIAGING, ANTIOXIDANT



**NEEM:**

- FAMILY :- MELIACEAE
- BIOLOGICAL SOURCE ACTIVE:- AZADIRACHTA INDICA
- CONSTITUENTS:- AZADIRACHTA, NIMBIN, NIMBIDIN
- PARTS USE:- LEAVES, SEED, FLOWER, BARK
- USES:- MOISTURISING, COOLING,
- PROPERTIES :- ANTIBACTERIAL. ANTI-SEPTIC
- OTHER USES :- INSECTICIDE,ANTIFEEDANT



### ROSE WATER:-

- FAMILY :- ROSACEAE FAMILY
- BIOLOGICAL SOURCE :- ROSA DAMASCENA
- CONSTITUENTS:- PHENETHYL ALCOHOL, GERANIOL, BETA-CITRONELLOL
- PARTS USED :- ROSE PETAL
- PROPERTIES :- ANTIBACTERIAL, ANTI-INFLAMMATORY



### ALOVERA

- FAMILY :- ASPHODELACEAE
- BIOLOGICAL SOURCE:- DRIED LATEX OF LEAVES OF IT
- CONSTITUENTS :- AMYLASE, MONOSACCHARIDE
- PART USED:- GREEN PART OF THE LEAF
- PROPERTIES:- ANTIOXIDANT, ANTIDIABETICS, ANTIAGING



**• INGREDIENTS**

ALOVERA	GEL
ORANGE OIL	LABORATORY REAGENT
ROSE WATER	LABORATORY REAGENT
SOAP BASE	LABORATORY REAGENT
NEEM	LEAVES
TULSI	LEAVES
TURMERIC	ROOT

**PREPARATION AND METHOD**

Collection Of Necessary Ingredients

The Herbal Ingredients Such As Dried Herbs And Botanical Powder Are Collected.

**Melt The Soap**

Base Cut The Soap Base Into Small Pieces And Melt In Microwaves. Stir The Soap Base Until It Has Melted To Smooth Consistency

**Addition Of Herbs**

Add Herbs Slowly And Stir continuously to Ensure They Are Evenly Distributed Throughout The Soap

**Pour Into Moulds**

Once Herbal Are Added Pour The Soap Into Moulds. Lets It Cool And Harden For Hours Or Overnight

**Cut And Store The Soap**

Once the Soap Is Fully Cooled And Hardened, Remove It From the Mould And Cut It Into Desired Shapes And Sizes, Store In a Cool, Dry Place Until Ready To Use,

**EVALUATION OF HERBAL SOAPS****1. Physical Parameter**

The prepared Herbal soap was inspected Visually For its color, Weight Variation, Odour, and Appearance. The Ph Was Measured In Each Cream, Using A Ph Meter

**2. Weight Variation**

Collected 10 Soaps To Calculate The Individual Weight Finally Calculated The Average Weight Of Herbal Soap

**3. Percentage Yield**

The Empty Container Was In Which The Herbal Soap's Formulation Was Stored Then Again The Container Was Weighed With The Herbal Soap's Formulation. Then Subtracted Percentage Yield =  $\frac{\text{Practical Yield}}{\text{Theoretical Yield}} \times 100$

**4. Solubility:**

1.5gm Of Soap Added 10ml Of Solvents And Shake It for 3min and then View The Solubility Result.

**6. Foam Height**

Dissolve 0.4 Gm Of Prepared Soap In Distilled Water and Then Make Up The Volume To 50 ML With Distilled Water In a 100 ML of Measuring Cylinder. After the process Measured The Foam Height, Above The Aqueous Volume By Giving 25 Strokes.

**7. Foam Retention**

Prepared The 25 ML Of The 1% Soap Solution And Transferred it Into The 100 ML Measuring Cylinder. Then The Cylinder Was Shaken 10 Times. The Volume Of Foam Was Recorded At One Minute For 4 To

5 Minutes.

### 8. Skin Irritancy Test

Mark An Area (2sq.Cm) On The right Hand Dorsal Surface. The Herbal Soap Was Applied To The right-hand side at the Specified Area at that time note what happened to the hand. Irritancy, Erythema, and Edema Were Checked For Regular Intervals Up To 24 hours and then Reported.

### CONCLUSION

The natural ingredients found in herbal soap have antibacterial, antifungal, and anti-inflammatory properties, which make the skin effective in various kinds of skin conditions like acne, pimple, eczema, and psoriasis.

The plant of neem, tulsi turmeric, and aloe vera constituents extraction was studied. The prepared formulation when tested for different tests gave good results. It does not give irritancy to the skin was determined by using these soaps by a few volunteers hence it is proved that soap does not give any irritancy to the skin.

Furthermore, the prepared soap was standardized by evaluating various physicochemical properties such as pH appearance and odor in which the exhibited satisfactory effect.

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