



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 use of herbal soap provides various benefits, such as healing the skin, natural fragrance, and smoothing; it is made using natural ingredients that do not harm the environment and is biodegradable.

Herbal soaps, formulated with plant-based extracts and essential oils, have gained significant attention due to their natural, eco-friendly, and therapeutic properties. This study aims to review the formulation, benefits, and effectiveness of herbal soaps in comparison to conventional synthetic soaps.

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.

Keywords: Antimicrobial, aloe vera, cosmetics, eco-friendly, herbal soap, natural skin, neem, non-toxic, tulsi, turmeric, 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.

Herbal soaps, enriched with natural extracts and essential oils from various medicinal plants, have become increasingly popular in recent years. These soaps are prized for their potential health benefits, eco-friendliness, and the absence of synthetic chemicals found in conventional soap products. The formulation of herbal soaps typically includes plant extracts such as Aloe vera, Neem (*Azadirachta indica*), Turmeric (*Curcuma longa*), and Tulsi (*Ocimum sanctum*), each known for their unique therapeutic properties

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

Herbal soaps have carved a niche in the cosmetics industry due to their natural composition and the various skin benefits they offer. Unlike conventional soaps, which often contain synthetic detergents and preservatives, herbal soaps are formulated using plant-based ingredients and essential oils that provide therapeutic effects and promote skin health.

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



SKIN TYPES AND BASIC SKINCARE

1. NORMAL SKIN

- **Characteristics:** Well-balanced, not too oily or dry, few imperfections, radiant complexion, and barely visible pores.
- **Basic Care:**
 - **Cleansing:** Use a gentle cleanser to maintain the skin's balance.
 - **Moisturizing:** Apply a light, hydrating moisturizer to keep the skin supple.
 - **Sun Protection:** Use a broad-spectrum sunscreen with at least SPF 30 to protect against UV damage



2. OILY SKIN

- **Characteristics:** Enlarged pores, shiny appearance, prone to blackheads and acne due to excess sebum production.
- **Basic Care:**
 - **Cleansing:** Use a foaming or gel cleanser to remove excess oil without over-drying.
 - **Exfoliating:** Exfoliate regularly to keep pores clear, but avoid over-exfoliating which can increase oil production.
 - **Moisturizing:** Use a lightweight, oil-free moisturizer to hydrate without adding grease.
 - **Sun Protection:** Opt for a non-comedogenic, mattifying sunscreen.



3. DRY SKIN

- **Characteristics:** Flaky, rough texture, less elasticity, visible lines, and dull complexion.
- **Basic Care:**
 - **Cleansing:** Use a mild, hydrating cleanser that doesn't strip natural oils.
 - **Moisturizing:** Apply rich, emollient moisturizers to lock in moisture and repair the skin barrier.
 - **Hydrating:** Incorporate hydrating serums with ingredients like hyaluronic acid.
 - **Sun Protection:** Use a moisturizing sunscreen to prevent further dryness.



4. COMBINATION SKIN

- **Characteristics:** Oily T-zone (forehead, nose, chin) with dry or normal cheeks.
- **Basic Care:**
 - **Cleansing:** Use a balanced cleanser that targets oiliness while hydrating dry areas.
 - **Moisturizing:** Apply a lightweight moisturizer on the T-zone and a richer one on the cheeks.
 - **Exfoliating:** Exfoliate gently to manage oil and dry patches.
 - **Sun Protection:** Use a broad-spectrum sunscreen suitable for combination skin.



5. SENSITIVE SKIN

- **Characteristics:** Easily irritated, prone to redness, itching, and reactions to certain products.
- **Basic Care:**
 - **Cleansing:** Use a gentle, fragrance-free cleanser.
 - **Moisturizing:** Apply soothing moisturizers with ingredients like aloe vera and chamomile.
 - **Avoiding Irritants:** Avoid products with alcohol, fragrance, and harsh chemicals.
 - **Sun Protection:** Use a mineral sunscreen with zinc oxide or titanium dioxide.



- a) 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.
- b) 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 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 considered any water-soluble salt of fatty acids containing eight or more carbon atoms.

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

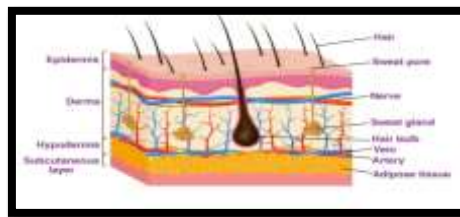
The affinity of the hydrocarbon chain to oil and grease, while the carboxylic group to water is the main reason soap is being used mostly with water for cleaning purposes





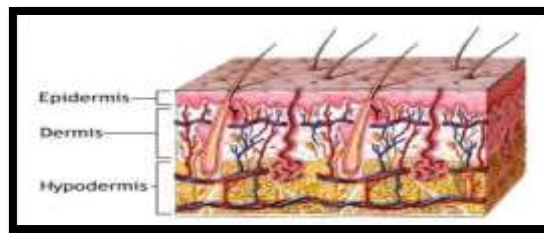
SKIN

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 2.2m². 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]



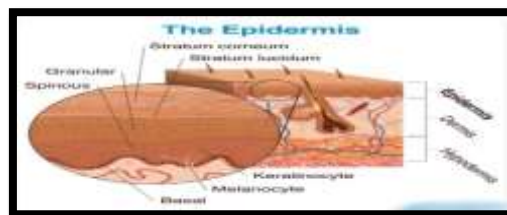
Skin Anatomy

These three layers work together to maintain skin integrity, regulate bodily functions, and protect the body from external threats. Understanding the structure of the skin is essential for diagnosing and treating various skin conditions and diseases, as well as for developing effective skincare regimens.



1. EPIDERMIS:

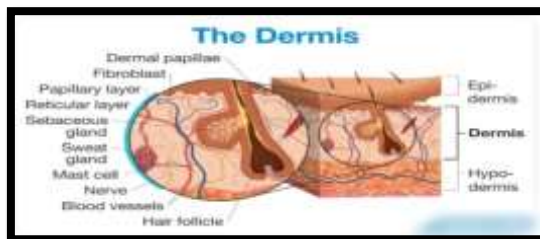
- The epidermis is the outermost layer of the skin, serving as a protective barrier against environmental factors, pathogens, and UV radiation.
- It is primarily made up of epithelial cells, mainly keratinocytes, which produce the protein keratin that gives the skin its strength and waterproofing properties.
- The epidermis also contains melanocytes, which produce melanin, the pigment responsible for skin color and protection against UV damage.
- The epidermis is further divided into sublayers, including the stratum corneum (outermost layer), stratum granulosum, stratum spinosum, and stratum basale (the deepest layer where new skin cells are formed).



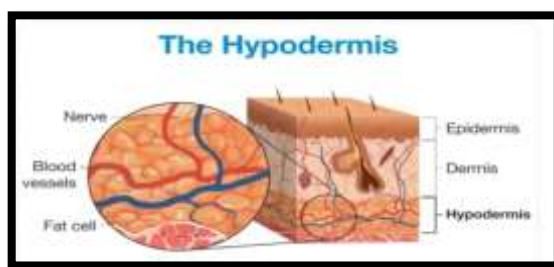
• DERMIS:

- The dermis is the middle layer of the skin, situated beneath the epidermis.

- It consists of connective tissue composed of collagen and elastin fibers, providing strength, elasticity, and structural support to the skin.
- The dermis contains blood vessels, lymphatic vessels, nerves, hair follicles, sweat glands, and sebaceous glands.
- It is responsible for nourishing the epidermis and regulating body temperature through blood flow and the dilation or constriction of blood vessels.
- The dermis is also involved in sensation, housing sensory receptors for touch, pressure, temperature, and pain.



- **HYPODERMIS (SUBCUTANEOUS TISSUE):**
- The hypodermis is the deepest layer of the skin, located beneath the dermis.
- It consists of adipose (fat) tissue and loose connective tissue, providing insulation, cushioning, and energy storage.
- The hypodermis contains larger blood vessels and nerves that supply the skin and underlying tissues.
- It plays a role in temperature regulation and padding against mechanical shock.



Literature review;

<p>1. Review of literature</p>	<p>abstract</p>
<p>1. Gulshan Kumar Mishra, Ritu Verma, Gaurav bhaduka, Rakesh Goyal (2023) An International Open Access Journal & and ISSN Approved) IJIRTEXPLORE Formulation And Evaluation Of Herbal Soap</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) EPRA International Journal of Research and Development (IJRD) 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.</p>

<p>3. Amrita Majumdar, Bhavay Thakkar, Shobhit Saxena, Pradeep Dwivedi, vijaya Tripathi (2023) World Journal Of Pharmaceutical Research Formulation And Evaluation Of Herbal Soap</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.</p>
<p>4. Mahipal Choudhary, Rajeev Kumar, Kailash Mahawar, Madhuri Shringirish Sanwar Mal Yadav (2023) WORLD JOURNAL OF ADVANCEHEALTHCARE 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, 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</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.</p>

Formulation And Evaluation Of Herbal Soap Containing Methanolic Extract Of Three Ayurvedic Varnya Herbs	
8. Jyoti Joshi, Devi P, Rajeswar Ranjitkar, Laxman Bhandari (2019) Journal Of Plant Research Formulation And Evaluation Of Herbal Soap Using Curcuma Zedoaria	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.
9. Janeffer Lemberg , Messias Barboza (2020) International Journal Of Pharmaceutical Science In Formulation Of Anti-Bacterial Soap	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
10. Ashlesha Ghanwut , Sachin Wayzod, Vanjire Divya (2020) Journal Of Research In Pharmaceutical Sciences Formulation And Evaluation For Herbal Soap	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[
11. Dr. A Selta, Dv Sivani, (2021) International Journal Of Pharmaceutical Science Formulation And Evaluation For Herbal Soap	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
12. Munde Govind Anant , Dr. Hingane L.D , Miss Shinde R (2021) International Research Journal Of Modernization In Engineering Technology and Science Formulation And Evaluation Of Herbal Soap Using Natural Ingredients	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.
13. Devipriya Nisha P, Nivetha L, Deepak Kumar (2021) International Journal Of Pharmaceutical Scientific Formulation And Evaluation Of Herbal Soap Using Curcuma Zedoaria	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>14. Patel Anu, Patel Anar, Patel Janhanvi, Bhuvsar Hrmal (2022) International Journal Of Scientific Research</p> <p>Formulation And Evaluation Of Herbal Soap</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 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,</p>
<p>15. Arjun Attaullah , Aruna Govindarajulu, Shafk Jasmine Shashina (2022) Asian Journal Of Biological And Life Science</p> <p>Formulation Of Herbal Soap Against Acne-Causing Bacteria</p>	<p>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</p>
<p>16. Selvanani M, Surya Prakash R, Siva Shankar D, Subash K, Siva Guru M (2022) World Journal Of Pharmaceutical And Medical Research</p> <p>World Journal Of Pharmaceutical And Medical Research Formulation And Evaluation Of Polyherbal Soap</p>	<p>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.</p>
<p>17. J. Bhavani N. Chinnathambi, S. Sandhanam Jothiligam, S. Arthi (2023) World Journal Of Pharmaceutical Research</p> <p>Formulation And Evaluation Of Herbal Soap Using Natural Ingredients</p>	<p>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.</p>
<p>18. Gopi.S. Sandhiya, Ramya, S. Sandhiya B. Rohini, Reshma (2023) Ijppr Human Journal</p> <p>Formulation And Evaluation Of Antifungal Herbal Soap</p>	<p>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.</p>
<p>19. Akash Walmikraa Dhakne, Mr . S. B. Deshmukh (2023) International Journal Of Innovative Research In Technology</p> <p>Formulation And Evaluation Of Herbal Soap</p>	<p>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.</p>

<p>20. Hari Prasath C, Divya Priya S, Dhana Rangesh Kumar V. (2023) Asian Journal Of Pharmaceutical And Clinical Research Formulation And Evaluation Of Anti-Fungal</p>	<p>It Is Commonly Used For gastronomical And Therapeutical Purposes, Which Also Has The Maximum Amount Of Health Benefits. The Main Objective is to Study the Formulation Of Antifungal Herbal</p>
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NEED TO WORK

NATURAL INGREDIENTS:

Herbal soap utilizes plant-based ingredients like neem, turmeric, orange peel, and aloe vera tulusi. These components offer antioxidant, antimicrobial, and anti-inflammatory properties, making them suitable for skin care.

SAFETY AND EFFICACY EVALUATION:

After formulating an herbal soap, rigorous evaluation is essential. Parameters such as appearance, color, pH, and odor are assessed to ensure safety and efficacy². For instance, a study optimized a formulation containing neem, turmeric, and tulusi extracts for anti-acne properties.

AVOIDING SYNTHETICS:

The trend leans toward pure herbal formulations without synthetic ingredients. Consumers prefer natural remedies due to perceived safety and fewer side effects.

AIM AND OBJECTIVE

AIM

Formulation And Evaluation Of Herbal Soap To provide a natural alternative to commercial soaps, avoiding synthetic chemicals and harsh detergents. To produce eco-friendly soap using sustainable, biodegradable ingredients and packaging. To create visually appealing soaps with pleasant natural fragrances.

OBJECTIVE

- The Objective Of This Work Is the Formulation And Evaluation Of Herbal Soap Using Turmeric, Neem, Tulusi, 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

Formulate the soap using natural, high-quality herbal ingredients known for their skin-nourishing properties.

Ensure the soap provides specific benefits, such as moisturizing, soothing, and enhancing skin health, without harsh chemicals or synthetic additives.

CHALLENGES, APPROACH, OUTCOMES

APPROACHES:

Ingredient Selection: Choose herbs and essential oils known for their beneficial properties, such as lavender for calming or tea tree for its antibacterial qualities.

Formulation: Experiment with different combinations of herbs, oils, and other natural ingredients to create unique blends that cater to specific skin types or concerns.

Production: Develop a standardized production process to ensure consistency in quality and efficacy.

Packaging and Branding: Design appealing packaging that communicates the natural and herbal qualities of the soap, targeting eco-conscious consumers.

CHALLENGES:

Sourcing: Finding reliable suppliers for high-quality herbs and essential oils can be challenging, especially for small-scale producers.

Regulatory Compliance: Ensuring compliance with regulations regarding labeling, ingredient safety, and manufacturing practices can be complex and time-consuming.

Preservation: Herbal soaps may have a shorter shelf life compared to synthetic alternatives, requiring careful formulation and packaging to maintain freshness.

Market Competition: Standing out in a crowded market requires effective branding, marketing, and possibly niche positioning.

OUTCOMES:

Healthier Skin: Herbal soaps offer gentler cleansing and may provide additional skincare benefits compared to commercial soaps containing harsh chemicals.

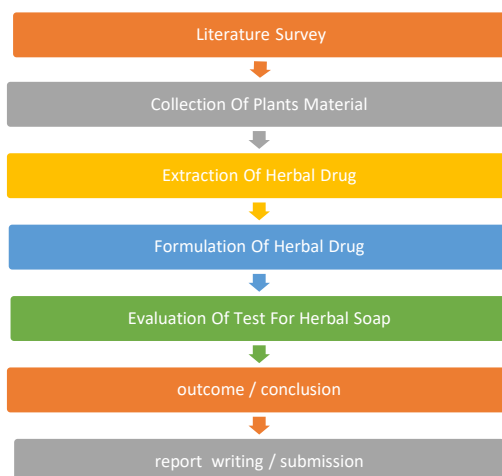
Environmental Impact: Using natural ingredients and eco-friendly packaging can appeal to environmentally conscious consumers, potentially leading to a loyal customer base.

Market Differentiation: Positioning the product as a natural, herbal alternative to mainstream soaps can attract consumers seeking healthier and more sustainable options.

Community Impact: Supporting local herb growers and suppliers can have positive social and economic effects on the community.

PLAN OF WORK;

Preparation Of Herbal Soap Are Carried Out By Following Steps



3. Method and material ;

PREFORMULATION EVALUATION OF NEEM, TULSI, TURMERIC

1. NEEM

Test	Observation	Interference
Test For Alkaloid		
Dragendroffs Test A Quantity Of 0.5 G Of Sample Was Dissolved In Hydrochloric Acid And Filtered Using Filter Paper To The 2 MI Of Filtrate Was Treated With Dragendroff's Reagent (Solution Of Potassium Bismuth Iodide)	Red Ppt	Alkaloid is Present
Terpenoids A Quantity Of 0.5 G Of Sample Was Dissolved In	Violent	Terpenoids are Present

Ethanol For About 10 Minutes For Proper Extraction And Filtering. To 5 MI Of Each Filtrate Was Added 1 MI Of Acetic Anhydride Followed By Addition Concentrated H ₂ SO ₄ .		
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2. TURMERIC

1. Carbohydrates		
Polish Test Firstly 2 MI Solution Was Placed In A Test Tube Then 1 Drop Of Molish The Reagent Was Added. 2 MI Of Conc. HCl Was Added From The Sides Of The Test Tube.	Violet	Carbohydrates is Present
2. TEST FOR PROTEIN AND AMINO ACID		
Millon Test 2 MI Test Solution Is Added With Millon's Reagent	White	Present
Ninhydrin Test To 2 MI Test Solution, Ninhydrin Solution Was Treated And Then Boiled. The Formation Of Blue Color Indicates The Presence Of Amino Acid. Again 2ml Test The Solution, 0.2% Ninhydrin Solution Was Treated With Amino Acids And Proteins,	Violet	Present

3. TULSI

1. GLYCOSIDE		
Salkowskis Test 2ml Of Chloroform Was Mixed With The Crude Extract. Then 2ml Of Concentrated H ₂ SO ₄ Was Added Carefully And Shaken Gently.	Reddish Brown	Present
2. PHENOL 2 MI Of Alcohol And 2-3 Drops Of Ferric Chloride Solution Was Added To 1 MI Of Crude Extract	Green	Present
3. FLAVANOID		
Shinoda Test The Crude Extract Was Mixed With A Small Amount Of Magnesium And Concentrated HCl Was Added Drop	Pink	Present

Wise.		
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B.Ingredients ;

1. Tulsi:- Anti-Bacterial And Anti-Fungal
2. Turmeric:- Antioxidant
3. Neem :- Antiseptic
4. Rose Water: Flavouring Agents, Cooling Agents
5. Aloe vera:- It Soothe Sunburns Or Dry Skin

❖ TULSI

- Botanical Name :- Ocimum Tenuiflorum
- Common Name :- Holy Basil.
- Chemical Constituents :- Eugenol Germaceterpen
- Part Typically Used:- Leaves
- Colour :- Green
- Properties:- Antifungal, Antibacterial, Antiseptic
- Benefits:- Tulsi is rich in Vitamin C and zinc. It thus acts as a natural immunity booster and keeps infections at bay. It has immense anti-bacterial, anti-viral, and anti-fungal properties which protect us from various infections. Tulsi leaf extract increases the T helper and natural killer cells activity, boosting the immune system.

**❖ TURMERIC:-**

- Biological Source:- Curcuma Longa
- Common Name:- Haldi
- Part Typically Used:- Root
- Effect:-Dark Spot, Natural Glow, Diminish Scars
- Properties:- Antibacterial, Antiaging, Antioxidant
- Benefits:- Inflammation, Degenerative eye conditions, Metabolic syndrome, Arthritis, Hyperlipidemia (cholesterol in the blood), Anxiety Muscle soreness after exercise, Kidney health



◆ NEM:-

- Family :- Meliaceae
- Biological Source Active:- Azadirachta Indica
- Constituents:- Azadirachta, Nimbin, Nimbodin
- Parts Use:- Leaves, Seed, Flower, Bark
- Uses:- Moisturising, Cooling,
- Properties :- Antibacterial, Anti-Septic
- Other Uses :- Insecticide, Antifeedant
- Benefits:- Neem preparations are reportedly efficacious against a variety of skin diseases, septic sores, and infected burn





❖ ROSE WATER:-

- Family :-Rosaceae Family
- Biological Source :- Rosa Damascena
- Constituents:- Phenethyl Alcohol, Geraniol, Beta-Citronellol
- Parts Used:- Rose Petal
- Properties:- Antibacterial, Anti-Inflammatory
- Benefits:- Rose water is an antibacterial. This means that it fights off bacteria that could lead to infections. Using rose water for face and body care can prevent wounds such as burns and cuts becoming infected and it can also be used to reduce the appearance of scars when used in high concentrations.



❖ 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
- Benefits: It may Aid in Gastro-oesophageal Reflux Disease (GERD), is Good for our Digestive System, Helps to Detox our Body, is Good for Oral Health and Blood Sugar Levels, is Amazing for our Skin, and Treatment of Psoriasis, is Good for our Hair





c.] METHODS:-

- 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,

OPTIMAL BATCH

Ingredients	Batch 1	Batch2
Neem	5g	6g
Tulsi	3.5g	6g
Aloe Vera	5g	5g
Turmeric	1.5g	2g
Soap Base	50g	40g
Rose Water	8ml	3ml
Orange Peel	2ml	3g
Coconut Oils	---	10ml

METHODS OF PROCEDURE

BATCH 1

PROCEDURE

1. Take ..5...G Of Neem Powder In A Beaker.3.5..G Of Tulsi Powder.,5... Aloe Vera Mix It Well
2. After That Add Rose Water8..ML, And Turmeric ..1.5...G Then All Are Mixed For 2 To 3 Minutes
3. Then Heat The Soap Base In The Container And Melt After Melting The Base Add All Mixed Ingredients In The Melted Soap Base And Mix It Finally Stop The Heat
4. After That Add an Orange Peel..2..ML And After That Put That Solution In The Mold For The Shape Of The Soap.
5. Finally, The Soap Is Ready And Packed.



BATCH 2

PROCEDURE

1. Take ..6...G Of Neem Powder In A Beaker.6..G Of Tulsi Powder,,5... Aloe Vera Mix It Well
2. After That Add Rose Water3..ml, And Turmeric ..2...G Then All Are Mixed For 2 To 3 Minutes
3. Then Heat The Soap Base In The Container And Melt After Melting The Base Add All Mixed Ingredients In The Melted Soap Base And Mix It Finally Stop The Heat
4. After That Add an Orange Peel..3..ml And After That Put That Solution In The Mold For The Shape Of The Soap.
5. Finally, The Soap Is Ready And Packed.



Evaluation;

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. Washability

Formulation Will Be Applied On The Skin And Then Washing With Water Will Be Checked Manually

4. Solubility:-

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

5. 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.

Result and discussion

Parameter	Observation	
	Batch1	Batch 2
1. Physical Appearance		
a) Color	Dark Brown	Green

b) Odor	Pleasant	Pleasant
2. Washability	Good	Good
3. Stability	Stable At Room Temp.	Stable At Room Temp
4. Avg. Weight	75gm	43gm
5. Skin Irritability	No Irritation	No Irritation
6. Solubility	Soluble	Soluble

CONCLUSION

A prepared formulation of herbal soap (ingredients containing turmeric, tulsi, and neem) is useful for acne treatment. They are also used as a cleanser to clean the dirt and moisture of the skin and they contain antifungal, antibacterial, and anti-inflammatory properties

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