FORMULATION AND EVALUATION OF HERBAL SOAP

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Abstract:
The project is dedicated to formulating an herbal soap harnessing the extract Palash Flower peel. An herbal soap was formulated using the flower of the extract. Ayurvedic cosmetic are also known as the herbal cosmetics. The natural content in the herbs does not have any side effects on the human body. The Palash Flowerflower extract has high potential on antimicrobial activity. Palash flower tree has attracted worldwide prominence owing to its wide range of medicinal properties anti acne, anti-fungal, anti-microbial, antibacterial attributes. The use of herbs soaps provides various benefits, such as soothing and healing the skin providing fragrance, and reducing stress and anxiety. It is made using natural ingredients that are biodegradable and do not harm the environment. There is a growing demand to attain and preserve good skin. When a little amount of the herbal soap was dissolved in distilled water, it produced most stable foam. the herbal soap has antibacterial qualities and acts non-irritatingly on the skin which is encouraging.

Keywords: Herbal soap, skin health, Palash, Butea Monosperma

Introduction: [1,2,3,4]
The skin of humans is not only the largest organ in the body, but it also tissues, but it also serves as the body's main line of defence, which is extremely important. It acts as a barrier to keep out hazardous microorganisms, extremes in temperature, and physical trauma away from internal organs, muscles, and bones. Apart from its barrier role, the skin harbours a multitude of specialised cells and structures that play a vital role in controlling body temperature, generating vitamin D, and detecting touch, pressure, pain, and pleasure. Because of its intricacy and adaptability, the human skin is a unique organ that requires our consideration and care. Taking good care of our skin is essential to preserving its health and averting numerous skin conditions. Our skin has a specific purpose. Our body’s overall wellbeing, so it deserves our attention and care. Skin conditions can affect people of all ages, from newborns to the elderly, and they can manifest in different ways. Some common causes of skin issues include infections, allergies, overexposure to the sun, wounds, and more environmental variables. These elements may result in a variety of skin issues, including rashes, psoriasis, dermatitis, acne, eczema, and more. There are various steps we may take to maintain healthy skin free from these problems. First and foremost, maintaining proper hygiene is crucial. This includes moisturising and cleaning on a daily basis. It's critical to utilise skincare products that are suitable for our skin type and mild. Furthermore, it's critical to shield our skin from damaging UV radiation by using sunscreen and wearing protective clothes when we're outside in the sun.

Extended periods of sun exposure and sunburns can cause skin damage, which can have long-term consequences like early ageing and a higher chance of developing skin cancer Steer clear of factors that could result in irritations or allergic responses, like Overall skin health can be enhanced by leading a healthy lifestyle that includes a balanced diet, consistent exercise, and enough sleep. It is best to consult a dermatologist for medical guidance if you have any persistent medical problems or skin conditions. They are
able to offer a precise diagnosis, appropriate care, and direction on how to properly take care of our skin. Recall that caring for our skin is about protecting the health and welfare of our largest organ, not just how it looks. Thus, let's give skin health top priority and work hard to maintain it healthy, radiant, and free of disease.

**Herbal cosmetics**

Herbal cosmetics are formulated, using different cosmetic ingredients to form the base in which one or more herbal ingredients are used to cure various skin ailments.

**Herbal soap**

Soap is used to clean our bodies gel rid of dirt and bad smells. Herbal soap made plant like seeds fruits peels have natural properties that can kill bacteria, slow down aging, protect against damage, and keep things clean, these soaps don’t have artificial colours, flavours, or other extra stuff like regular soaps do. Herbs are often used in medicine and skin care because they effective, affordable easy to find, and safe to use.

**Why should we prefer herbal soap?**

Herbal soaps effectively cleanse the skin, removing dirt, oil, and impurities without stripping away the skin’s natural oils. They can help maintain the skin’s natural pH balance and prevent excessive drying.

**Uses of herbal soap**

1. Antibacterial
2. Maintain skin health
3. Enhance skin fairness
4. Natural soap helps maintain healthy skin
5. No harmful chemicals
6. Improved skin texture
7. Reduced appearances of wrinkles
8. protected skin barriers

**Types of Skin:**

Many people believe that having well-hydrated skin that is in a controlled range between oily and dry is ideal. However, compared to oily skin, dry skin usually creates more problems. Dry skin, also known as xerosis, has several reasons, but the general idea is as follows. It has a rough texture, an uneven appearance (usually grey-white), and more ridges than usual. Factors such as sebum, aquaporin, natural moisturizing factor, and stratum corneum lipid levels can either regulate or aggravate dry skin. The stratum corneum (SC) is the most important of these elements in the mechanism of xerosis because it maintains the skin’s moisture content. The SC is composed of ceramides, fatty acids, cholesterol, and other materials.

**Skin Anatomy**

Skin is very important for all health care professionals to have basic information about the structure and function of human skin. Skin is also called cutaneous membrane. In adults the skin has a surface area rangingfrom1.2 to2.2m2. Skin has two types, hair-bearing skin that covers much of the body and hairless skin as that of palms of Hands and soles of feet.[1] Skin is the most exposed part of the body to the sunlight, environmental pollution and also used to some protection against the pathogen.
The skin test could be helpful if you're having trouble figuring out what type of skin you have. Eucerin advises speaking with a dermatologist or pharmacist if you require additional guidance on how to take care of it. Skin that is normal is well-balanced, neither too dry nor greasy.

**Normal skin**

‘Normal’ is a term widely used to refer to well-balanced skin. The scientific term for healthy skin is eudermic.

**Oily skin**

‘Oily’ is used to describe a skin type with heightened sebum production. This over production is known as seborrhoea.

**Combination skin**

Combination skin is, as the name suggests, skin that consists of a mix of skin types

**Sensitive skin:**

Sensitive skin is characterised by its reactions to products, foods and environmental factors in a manner that is more persistent with constant triggers. Now that you have a basic idea of what the different types of skin are, here are tips on how to take care of each.

**Herbal soap preparation**

Organic soap is crafted from organic ingredients, and the production of these soaps emphasizes sustainability and avoids harmful chemicals, making it an eco-friendly choice. The manufacturing process involves blending organic oils, such as coconut, olive, or palm, with lye; a natural alkali derived from ashes.

**Advantages of Herbal cosmetics**

1) Herbal cosmetic is natural and free from all the synthetic chemicals which generally may turn out to be lethal to skin.

2) Herbal soap is made from natural ingredients that are non-toxic and antiseptic.

3) Herbal soap is highly moisturising and does not dry out the skin.

4) Herbal soap is unique and handmade, which make it more personal and authentic.

5) Herbal soap is better from environment, does not contain harmful chemicals.

**Herbal soaps**, also known as natural soaps, are made from plant-based ingredients and botanical extracts. They offer a range of benefits for the skin due to the presence of natural ingredients. Here are some potential benefits of using herbal soap:

- **Gentle and Mild:** Herbal soaps are typically gentle and mild on the skin. They are free from harsh chemicals, synthetic fragrances, and artificial additives that can cause irritation or dryness.
- **Nourishing and Moisturizing:** Often contain natural oils and butters, such as olive oil, coconut oil, shea butter, or cocoa butter. These ingredients help moisturize the skin, keeping it soft, supple, and hydrated.
- **Cleansing:** Herbal soaps effectively remove oil, debris, and pollutants from the skin without eroding its natural oils. They can lessen excessive drying and support the preservation of the skin's natural pH balance.
- **Natural Fragrances:** Sourced from botanical sources. The pleasant perfume of these natural fragrances is produced without the use of artificial chemicals, which some people may find annoying.
- **Appropriate for Skin Sensitive:** Herbal soaps are often appropriate for skin types that are sensitive because of their natural composition. If you compare them to soaps made with artificial substances, they are less likely to trigger allergies or negative responses.
- **Antioxidant Properties:** Some contain plant extracts rich in antioxidants, such as green tea, chamomile, or aloe vera. These antioxidants can help protect the skin from damage caused by free radicals, which contribute to premature aging.
- **Soothing and Calming:** Certain herbs and botanical extracts found in herbal soaps, like lavender or chamomile, have soothing and calming properties. They can help relieve skin irritation, inflammation, or itchiness.
- **Environmentally Friendly:** Often produced using sustainable and eco-friendly practices. They are typically biodegradable and do not contribute to water pollution like some conventional soaps.

**Benefits**

**Cleansing:** Herbal soaps effectively cleanse the skin, removing dirt, oil, and impurities without stripping away the skin's natural oils. They can help maintain the skin's natural pH balance and prevent excessive drying.
Natural Fragrance: which are derived from plants.

Moisturizing: Many herbal soaps contain natural oils, such as olive oil, coconut oil, shea butter, or cocoa butter, which help moisturize and hydrate the skin. These oils help in forming a protective barrier preventing dryness. It makes the skin soft, supple, and smooth.

Soothing and calming: Herbal soaps frequently include herbs and botanical extracts renowned for their soothing and calming attributes. Ingredients like chamomile, lavender, calendula, and aloe vera can help alleviate skin irritation, redness, and inflammation, providing relief for conditions like eczema, or sunburn.

Anti-aging effects: Numerous herbal soaps incorporate anti-oxidant-rich ingredients like green tea, rosemary, or turmeric, which effectively combat free radicals and diminish the signs of aging. These antioxidants shield the skin from oxidative stress, contributing to a youthful and glowing complexion.

Cleansing and detoxifying: Herbal soaps cleanse the skin with great efficacy by eliminating impurities, excess oil, and dirt, all while preserving its natural oils. Some herbs, like neem or tea tree, possess antibacterial and antifungal properties, which help purify the skin, prevent acne breakouts, and promote a healthier complexion.

Aromatherapy benefits: Herbal soaps often contain essential oils that provide aromatherapy benefits during shower or bathing. The natural fragrances from essential oils, such as lavender, peppermint, or citrus, can uplift the mood, relax the mind, and create a spa-like experience.

Environmentally friendly: Herbal soaps are usually biodegradable and environmentally friendly. Herbal soaps are commonly manufactured using sustainable practices, ensuring they do not contribute to water pollution or harm aquatic life, a concern associated with certain commercial soaps.

Aim:
To formulation and evaluation of herbal soap.

Objective:
1) Herbal soap aims to cleansing the skin by removing dirt, oil, and other impurities.
2) Treating several epidermal dysfunctions
3) To formulate the herbal soap
4) To evaluate the herbal soap
5) The part used for formulation is leaves, fruits and root.
6) To reduce side effects of chemical formulation
7) To improve skin texture.
8) A lot of herbal soaps are made with antimicrobial ingredients that help shield the skin from fungus and bacteria
9) Herbal soaps typically contain essential oils and plant extracts that give them a pleasant which makes them eco-friendly.
10) The and natural fragrance
11) Herbal soaps are generally created with ethically derived components and are biodegradable use of various medicinal plant parts, such as leaves and roots, in herbal soaps can promote good health and help treat skin infections.

Drug Profile [10,11,12]
Plant - Butea Monosperma

fig.no -2
Palash Flower (Butea Monosperma)
Plant: palash flower
Synonyms – parna, palash,
Geographical source
Bangladesh, India, Nepal, Pakistan, Thailand, srilanka, Myanmar, western Indonesia

**Taxonomical classification** –
Kingdom – Plantae
Family – Fabaceae
Genus – Butea
Species – Butea Monosperma
Chemical constituents – the chemical constituents of the Palash flower include glucosides, butrin, isobutrin, and glucosides, quercetin and kaempferol.

**Chemical Structure** –
**Butrin**
Molecular formula – C27H32O15
Molar mass - 596.53 g/mol.
**Structural formula** -  

**Kaempferol**
Molecular formula – C15H10O6
Molar mass - 286.23 g/mol
**Structural formula** -  

**Organoleptic properties**
Colour – Orange
Odour – sharp arebic test
Taste – Bitter, pungent and astringent
Height – 15 to 25 meters
Flower – bright orange red
Seed – 3 cm long, ellipsoid and flattened. Kidney shaped

Therapeutic category –
This traditional medicinal plant has been used for thousands of years in Ayurvedic medicine for various therapeutic purposes.

Pharmacological Properties:
Anti-inflammatory: Palash exhibits anti-inflammatory effects.
Antioxidant: It possesses antioxidant properties.
Antimicrobial: The plant has antimicrobial activity.
Analgesic: Palash can provide pain relief.

Traditional Uses:
Skin Disorders: Palash is used to treat skin-related issues.
Pain Management: It helps alleviate pain.

Plant Description
1. Butea monosperma is a small-sized dry season deciduous growing to 15 m (49 ft) tall. It is slow-growing: young trees have a growth rate of a few feet per year.
2. The leaves are pinnate with an 8–16 cm (3.1–6.3 in) petiole and three leaflets. Each leaflet is 10–20 cm (3.9–7.9 in) long.
3. The flowers are 2.5 cm (0.98 in) long, bright orange-red, and produced in racemes up to 15 cm (5.9 in) long. 4. The fruit is a pod 15–20 cm (5.9–7.9 in) long and 4–5 cm (1.6–2.0 in) broad.
5. The flowers frequently have a spectacular late-winter bloom (February to April), although the trees do not flower every year.
6. Each flower features five petals, two wings, and a keel that resembles the curled beak of a parrot. If the winter season is too cold, too dry, or too rainy, trees may not blossom.
7. The Palash tree, also known as the flame of the forest, is a remarkable species native to tropical and subtropical regions of South Asia and Southeast Asia. Revered by Hindus, it holds cultural significance and is prized for its vibrant blooms.
8. Palash (Butea monosperma) is a revered medicinal plant known for its therapeutic properties. Let’s delve into its fascinating attributes:

External Morphology:
Palash is a deciduous tree that can grow up to 15 meters in height. It features distinct pinnate leaves and clusters of striking red or orange flowers that resemble flames, earning it the name “Flame of the Forest.” The unique flowers of Palash are a visual spectacle and hold cultural significance.

Useful Parts:
Various parts of the Palash tree are utilized for their medicinal properties. These include the flowers, leaves, bark, and gum.

Experimental work [13,14,15]

Composition of herbal soap
Herbal soaps are made using a combination of natural ingredients that offer various benefits to the skin. While the specific composition can very depend on the brand and the desired properties, here are some common ingredients found in herbal soaps.

Base oils: Herbal soaps are typically made with a blend of different base oils, such as olive oil, coconut oil, Rose oil, palm oil, or castor oil. These oils provide moisturizing properties and help to create a rich lather. But only used Rose oil.

Essential oils: Essential oils are derived from various plants and are used in herbal soaps to provide fragrance and therapeutic benefits. Examples include lavender oil for relaxation, tea tree oil for its antibacterial properties, or eucalyptus oil for its soothing effects.

Herbs or botanicals: Dried herbs or botanicals are often added to herbal soaps for their healing or exfoliating properties. Examples include chamomile flowers for soothing, calendula petals for their anti-inflammatory properties, or oatmeal for gentle exfoliation.

Natural colorants: Some herbal soaps may use natural cool-rants derived from plants or minerals, such as turmeric powder for a yellow color, spirulina powder for green, or activated charcoal for black.

Additional ingredients: Depending on the desired proper-ties, other ingredients may be added to herbal soaps, such as shea butter for extra moisture, aloe vera gel for soothing, or honey for its antibacterial and moisturizing properties.
Preparation of Herbal Soap -

Collection of the necessary ingredients: A high-quality soap base, such as goatmilk or shea butter is needed. The herbal ingredients, such as essential oils, dried herbs, and botanical powders are collected.

Melt the soap base: Cut the soap base into small pieces and melt it in a double boiler or microwave. Stir the soap base until it has melted to a smooth consistency.

Addition of the herbs: After melting the soap base, take it off the heat and incorporate the herbal ingredients by stirring them in. Dried herbs, essential oils, or powders are used. Add the herbs slowly and stir continuously to ensure they are evenly distributed throughout the soap.

Pour into Molds: Once the herbs are added, pour the soap mixture into molds. Silicone molds or plastic containers coated with cooking spray are used. Let 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 molds and cut it into desired shapes and sizes. Store the soap in a cool, dry place until ready to use.

Preparation of Soap base-

Glycerin and water mixed together in a beaker; sodium hydroxide was added in the solution slowly with constant stirring. Coconut oil was added in the solution and was kept aside for 10 minutes. Further, propylene glycol and clear solution of 70% sorbitol solution was added to it. After all additions are over, in the above solution the rose oil was added perfuming agent in the mixture was solidified after some time. This was used soap base.

Formulation of herbal Palash Flower soap

Formula

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Ingredients</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Beeswax</td>
<td>20 gm</td>
<td>15 gm</td>
<td>25 gm</td>
<td>Hardening</td>
</tr>
<tr>
<td>2)</td>
<td>Palash Flower</td>
<td>20 gm</td>
<td>15 gm</td>
<td>25 gm</td>
<td>Antibacterial</td>
</tr>
<tr>
<td>3)</td>
<td>Orange Peel</td>
<td>10 gm</td>
<td>10 gm</td>
<td>10 gm</td>
<td>Antiseptic</td>
</tr>
<tr>
<td>4)</td>
<td>Rose Oil</td>
<td>Q. S</td>
<td>Q. S</td>
<td>Q. S</td>
<td>Perfume</td>
</tr>
<tr>
<td>5)</td>
<td>Sorbitol</td>
<td>15 ml</td>
<td>15 ml</td>
<td>15 ml</td>
<td>To prevent moisture loss</td>
</tr>
<tr>
<td>6)</td>
<td>Propylene glycol</td>
<td>20 ml</td>
<td>20 ml</td>
<td>20 ml</td>
<td>Humectant</td>
</tr>
<tr>
<td>7)</td>
<td>Glycerin</td>
<td>10 gm</td>
<td>10 gm</td>
<td>10gm</td>
<td>Solvent</td>
</tr>
<tr>
<td>8)</td>
<td>NAOH</td>
<td>10 ml</td>
<td>10 ml</td>
<td>10 ml</td>
<td>Lye</td>
</tr>
<tr>
<td>9)</td>
<td>Purified water</td>
<td>10 ml</td>
<td>10 ml</td>
<td>10 ml</td>
<td>Solvent</td>
</tr>
</tbody>
</table>

Table no-1 formulation of soap composition of palash soap

The formula glycerin ion process involves these steps:

1. To take fresh or distilled water and dried Palash Flower, make sure they are thoroughly washed. Palash Flower is a great exfoliator as they help to cleanse the skin. The Palash Flower can help to easily get rid of dead skin cells.

I filter my orange peel extract using a cheese cloth.

2. In a double boiler, melt 20gm of beeswax over low heat until it becomes liquid.

3. Gradually add the Palash flower extract to the melted beeswax, stirring continuously to ensure they are fully incorporated.

4. Once the extract is well mixed, add 15gm of sodium lauryl sulfate to the mixture. The addition of sodium lauryl sulfate helps create lather in the soap.

5. Stir the mixture well to combine all the ingredients thoroughly.

6. Remove the mixture from heat and allow it to cool slightly.

7. As the mixture cools, add a few drops of Rose oil for fragrance. Adjust the amount according to your preference, but be careful not to make the scent overpowering.

8. Pour the semi-solid soap mixture into soap molds or any desired container.

9. Allow the soap to cool and solidify completely before removing it from the molds.

10. Once the soap has hardened, gently press on the back of the molds or slightly twist them to release the soap bars from the molds.

11. Place the finished Palash Flower soap bars on a drying rack or any well-ventilated area to cure and harden further. This helps to improve the longevity and quality of the soap.

12. Allow the soap bars to cure for at least 4-6 weeks before using. During this curing period, the soap will gradually lose excess moisture and become harder, resulting in a longer-lasting bar.
LIST OF INSTRUMENTS -

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Electronic analytical weighing balance</td>
</tr>
<tr>
<td>2</td>
<td>pH paper</td>
</tr>
<tr>
<td>3</td>
<td>Beaker, container for lye solution</td>
</tr>
<tr>
<td>4</td>
<td>Heating mantel</td>
</tr>
<tr>
<td>5</td>
<td>Mixer, blender</td>
</tr>
<tr>
<td>6</td>
<td>Filter paper</td>
</tr>
<tr>
<td>7</td>
<td>Soap Mold</td>
</tr>
<tr>
<td>8</td>
<td>Measuring cylinder</td>
</tr>
</tbody>
</table>

table no-2

Evaluation of herbal soap
Organoleptic evaluation:
1 colour – brown
2 Odour – Odourless
3 appearance – transparent
4 shape – round

Physical evaluation: [18,19]
PH – The pH was determined by using pH paper. The was pH was found to be basic in nature.
Take 1 gram of soap sample and dissolve it in 10 ml of water.
Test the pH of the soap solution using pH paper to determine its pH range.
Foam retention – Take 25 ml of 1% soap solution in 100 ml measuring cylinder.
Cover the measuring cylinder with your hand and shake it vigorously for 10 minutes.
Record the volume of foam at 1-minute intervals for a total of 4 minutes.
Foam Height – Take 0.5 grams of the soap sample and dissolve it 25 ml distilled water.
Transfer the solution to a 100 ml measuring cylinder and make the volume up to 50 ml with water. Shake the measuring cylinder with the solution stand for few minutes. Measure the height of the foam above aqueous volume.
Antimicrobial Test – There was various study conducted on antimicrobial activity of Palash Flower and hence according to research by Butea monosperma.
Moisture content – Weight the soap sample and dry it using a drier at a temperature range of 100 to 115°C. calculate moisture content using the formula = Percentage moisture content = (Initial Weight - Final weight) * 100
Stability test – The optimized formulation was subjected for stability study by keeping at room temperature for period of 7 days. After 7 days, parameters of evaluation such as pH, foam formation, and organoleptic properties were.

RESULTS AND DISCUSSION:
1) Physical evaluation – The soap was observed for colour, odour, texture, state.

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>batch</th>
<th>Colour</th>
<th>odour</th>
<th>texture</th>
<th>state</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F1</td>
<td>Brown</td>
<td>Aromatic</td>
<td>Smooth</td>
<td>Solid</td>
</tr>
<tr>
<td>2</td>
<td>F2</td>
<td>Brown</td>
<td>Aromatic</td>
<td>Smooth</td>
<td>Solid</td>
</tr>
<tr>
<td>3</td>
<td>F3</td>
<td>Brown</td>
<td>Aromatic</td>
<td>Smooth</td>
<td>Solid</td>
</tr>
</tbody>
</table>

table no-3

2) PH – According to the results, the pH of all the three formulations that is F1, F2 and F3 were found to be nearer to skin pH so it can be safely used on the skin.
Table 4

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Parameter</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PH</td>
<td>7.1</td>
<td>7.3</td>
<td>7.4</td>
</tr>
</tbody>
</table>

3) **Foam Height** - Take 0.5 grams of the soap sample and dissolve it 25 ml distilled water. Transfer the solution to a 100 ml measuring cylinder and make the volume up to 50 ml with water. Shake the measuring cylinder with the solution stand for few minutes. Measure the height of the foam above aqueous volume.

Table 5

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Parameter</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Foam Height</td>
<td>2.5</td>
<td>2.7</td>
<td>3.0</td>
</tr>
</tbody>
</table>

4) **Foam Retention** - Take 25 ml of 1% soap solution in 100 ml measuring cylinder. Cover the measuring cylinder with your hand and shake it vigorously for 10 minutes. Record the volume of foam at 1-minute intervals for a total of 4 minutes.

Table 6

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Parameter</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Foam formation</td>
<td>143</td>
<td>146</td>
<td>153</td>
</tr>
</tbody>
</table>

1. **Antibacterial and Antifungal Properties:** With its well-known antibacterial qualities, palash flower extract efficiently fights fungus and germs on the skin. Because of this, those who are prone to acne, skin infections, and other microbial-related problems can use the herbal Palash Flower soap. The addition of neem powder to the soap composition increases its efficacy in destroying dangerous bacteria and preventing the formation of fungi.

2. **Moisturizing and Nourishing:** The addition of beeswax in the soap helps to lock in moisture and maintain hydration levels in the skin. Beeswax acts as a natural emollient, forming a protective barrier on the skin’s surface. This barrier prevents water loss and keeps the skin moisturized, providing a nourishing effect. Regular use of the herbal neem soap helps prevent excessive dryness and maintains the skin’s natural balance.

3. **Lathering and Cleansing:** When mixed with water, sodium lauryl sulphate, a surfactant frequently found in soaps, produces a thick, foamy lather. The skin is left feeling clean and revitalized because of the lathering action that helps remove debris, oil, and pollutants from the skin. The sodium lauryl sulphate in the herbal Palash soap effectively washes the skin without irritating or drying it out.

4. **Aromatic Experience:** Derived from Palash Flower, provides a delightful fragrance to the soap. Its pleasant citrus aroma adds to the overall sensory experience of using the herbal Palash soap. This helps protect the skin from environmental damage and promote a healthy complexion.

The combination of Palash Flower extract, sodium lauryl sulphate, beeswax, Rose oil, in the herbal palash soap demonstrates a synergistic effect in providing multiple benefits for the skin. The soap offers antibacterial, antifungal, moisturizing, cleansing, healing, and aromatic properties, making it a versatile and holistic skincare solution. To optimize the formulation, further research can be conducted to study the ideal concentrations of each ingredient. This will ensure the soap’s efficacy and safety while maximizing its beneficial effects on the skin. Additionally, user feedback and extensive testing across different skin types will provide valuable insights into the soap’s performance, potential side effects, and overall acceptability. Long-term studies can also be conducted to evaluate the prolonged use of the herbal palash soap and its effects on various skin concerns. This will help determine its suitability for specific skin conditions, such as acne-prone skin, dry skin, or sensitive skin. General acceptability. Studies over an extended period of time can also be carried out to assess how long-term use.
CONCLUSION:
The development of an herbal Palash Flower soap incorporating Palash Flower extract, sodium lauryl sulphate, beeswax, Rose oil, showcases promising results in terms of its antibacterial, moisturizing, cleansing, healing, and aromatic properties. With further refinement of the formulation, concentration optimization, and thorough testing, the herbal Palash Flower soap has the potential to become a highly beneficial and widely accepted natural skincare product.

**Future scope**

1. There is undoubtedly hope for handcrafted soaps in the future. In addition to people's perceptions changing, India is rising quickly. Consumers are gravitating more and more toward sustainable manufacturing practices and organic products. It cannot be disputed that these products are more expensive than those that are mass produced. They are unquestionably superior, though, both in terms of quality and environmental effect.

2. There are various benefits to handmade soaps. This is what made them well-known. First and foremost, handcrafted soaps are of significantly higher quality than soaps that are sold in stores. They have an earthy quality that is unmatched by soaps sold in stores. Whereas commercially available soaps utilize artificial fragrances, handmade soaps employ essential oils.

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