

Formulation and Evaluation Herbal Soap

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Abstract: *This study presents the formulation and benefits of an herbal soap riched with extracts from mango, teak, almond, and neem leaves. These ingredients were selected for their well-functioning, antimicrobial, antioxidant, and skin-nourishing properties. Mango leaves are contributing to skin protection and healing. Teak leaves are known for their antibacterial and anti-inflammatory effects. Almond leaves are for moisturizing benefits, while neem leaves are for antiseptic and antifungal properties. The combination of these extracts creates a soap Skin health, promoting a clear, hydrated, skin*

Keywords: Skin, herbal soap, formulation and evaluation of soap

I. INTRODUCTION

Traditional medicinal plants such as mango, teak, almond, and neem have been recognized for their therapeutic properties and are commonly used in various cultures for treating skin alignment. This study aims for formulate of multipurpose soap by incorporating mango, teak,neem, almond. Each of these ingredient have unique bioactive properties that contributing in herbal soap. Mango leaves have antimicrobial properties and also contribute to skin protection. Teak leaves are for antibacterial and anti-inflammatory effect. Almond leaves are for moisturizing effects while neem leaves are for antiseptic and antifungal. The rationale behind combining these specific ingredients lies in their synergetic potential to enhance clean and skin regeneration by formulating a soap that gives benefit of these herbal extract. We aim to develop an effective , moisturizing smooth soap for all basis. This research will explore the preparation methods of multipurpose soap, evaluate its potential benefit based on the properties of each ingredient and discuss safety considerations including usage and potential adverse effects. Additionally, we will highlight the importance of quality control and sourcing of herbal ingredients to ensure the safety and efficacy of product.

OBJECTIVE AND SCOPE

Objectives of Herbal Soap

- Natural Skincare: Provide a chemical-free alternative for skincare, utilizing natural ingredients known for their beneficial properties.
- Health Benefits: Offer soap that includes medicinal properties such as anti-inflammatory, antimicrobial, and antioxidant benefits.
- Environmental Sustainability: Promote environmentally friendly products by using biodegradable ingredients and sustainable practices.
- Allergen Reduction: Reduce the occurrence of skin allergies and irritations by avoiding synthetic fragrances and harsh chemicals.
- Market Niche: Cater to consumers who prefer organic and natural products, addressing the growing demand for herbal and eco-friendly personal care items.
- Educational Outreach: Increase consumer awareness about the benefits of herbal ingredients and the potential drawbacks of synthetic chemicals in traditional soaps.

SCOPE:

Scope of Herbal Soap

- Ingredients: Utilizes a variety of natural components such as essential oils, herbs, plant extracts, and natural fats (like coconut oil, olive oil, shea butter, etc.)

- **Product Range:** Includes different formulations for various skin types and needs, such as moisturizing, exfoliating, or therapeutic purposes.
- **Target Audience:** Focuses on health-conscious consumers, individuals with sensitive skin, and those seeking organic lifestyle products.
- **Production:** Emphasizes small-scale, artisanal production methods to maintain quality and integrity of natural ingredients.
- **Marketing:** Highlights the natural, eco-friendly aspects of the product, leveraging certifications such as organic, cruelty-free, or fair-trade to attract consumers
- **Distribution:** Available in health stores, organic markets, online platforms, and specialty shops focusing on natural and organic products.
- **Regulations and Standards:** Complies with industry standards for natural and organic personal care products, ensuring safety and efficacy through appropriate testing and certification.

By focusing on these objectives and scope, herbal soaps can effectively meet consumer needs and preferences while promoting a healthier lifestyle and environmental sustainability.

II. MATERIAL AND METHODS

The following powder ingredients are used for herbal soap this research article is about the formulation and evaluation of herbal soap by using natural ingredients like mango leaves, almond leaves, teak leaves, neem leaves all these leaves are dried and grind to make paste the ingredient used in herbal soap are given below

List of materials

Mango leaves



Scientific classification

Family: Anacardiaceae

Scientific name :magnifera indica

The mango leaves have strong antioxidants properties They are also used for antimicrobial properties Due to antimicrobial properties they are used for acne.

Almond leaves



Scientific classification

Family: Rosaceae

Scientific name: *Prunus dulcis*

The almond leaves give a moisturizing effect

2) they have soothing and anti-inflammatory properties

3) skin brightening: almond leaves are helped in brighten of skin

4) sun protection: almond oil is used as a natural sunscreen

Teak leaves



Scientific classification

Family: Lamiaceae

Scientific name: *Tectona grandis*

Anti-inflammatory effect: they contain compound which show soothe and calm to irritated skin.

Astringent: they show astringent properties which are used in oxidative stress

Antimicrobial: they show antimicrobial properties which are used to inhibit the growth of bacteria and harmful microorganisms.

Neem leaves



Scientific classification

Family: Meliaceae

Scientific name: *Azadirachta indica*

Antibacterial properties: neem leaves contain strong antibacterial properties which are used in acne caused by bacteria

Antifungal: neem leaves also used to treat fungal infection caused to skin

Moisturizing effect: neem leaves have moisturizing properties and it help to hydrate the skinski

Rose water



Is a by product of the production of rose essential oil through steam distillation of rose petals. It is a natural product that has been used for its skincare and aromatic properties. Here are some key aspects of rose water:

Skincare Benefits:

- 1) Hydration: Rose water helps to hydrate and moisturize the skin, making it suitable for all skin types, including dry and sensitive skin.
- 2) Balancing pH: It helps to maintain the skin's natural pH balance, which is essential for healthy skin function and preventing issues like dryness and acne
- 3). Anti-Inflammatory: Rose water has anti-inflammatory properties that can help soothe irritated and inflamed skin, reducing redness and discomfort.
- 4) Toning: It acts as a natural astringent, helping to tighten pores and tone the skin, giving it a smoother appearance.
- 5) Refreshing: Spritzing rose water on the face can provide an instant refreshing sensation, making it ideal for use throughout the day to revitalize the skin.
- 6) Anti-aging: Rose water contains antioxidants that help protect the skin from free radical damage, which can contribute to premature aging.
- 7) Cleansing: It can be used as a gentle cleanser to remove dirt, oil, and makeup residue from the skin

Turmeric



Scientific classification

Family – zingibarace

Scientific name – curcuma longa

Turmeric powder turmeric is used in this preparation due to its preparation due to its antibacterial properties and helps to heal wounds due to its antibacterial properties treatment of skin diseases caused by impure blood it is an excellent anti-inflammatory and anti-allergic agent herbal ingredient especially terpenoid help brighten the skin

Plant extract and their Role

Name of plant	Role
Mango leaves	Antioxidant antimicrobial
Almond leaves	Moisturizing effect

Teak leave	Skin brighting effct
Neem leaves	Antiseptic, antifungle
Rose water	Cleanser

Extraction process

- 1) Prepration of mango leaves extract : take 4 or 5 dried or fresh leaves of mango wash these leaves and blend in Griender to griend make it paste
- 2) Prepration of teak leaves extract : take 4 or 5 dried or fresh leaves of teak wash these leaves and blend in griender to Griend make it paste
- 3) Prepration of almond leaves extract : take 4 or 5 dried leaves or fresh leaves wash these leaves are blend in griender to Griend make it paste
- 4) Prepration of neem leaves extract : take 4 or 5 dried leaves or fresh leaves wash these leaves

Formulation table

Ingredient	Quantity taken
Mango leaves extract	11.5 g
Teak leaves extract	12 g
Almond leaves extract	10.75 g
Neem leaves extract	12 g
Rose water	2 ml
Soap base	30 g

Method :

Formation of herbal soap from mango, teak, almond, and neem leaves involves various steps, from preparing the herbal extracts to creating the soap base and finally combining everything. Here is a step-by-step procedure:

Ingredients:

- Herbs and Leaves:
- Mango leaves
- Teak leaves
- Almond leaves
- Neem leaves
- Other Ingredients: Soap base , Essential oils (optional, for fragrance)Distilled water

Equipment:

Stainless steel or heat-resistant glass mixing bowls

Wooden or silicone spatula, soap molds, Blender or food

Prepare Herbal Extracts :Dry the Leaves: If the leaves are fresh, dry them in a well-ventilated area away from direct sunlight to preserve their properties.

- 2) Powder the leaves: once the leaves are dried then grind the leaves into a fine powder using blender
- 3) Stain the leaves :to obtain a clear herbal infusion
- 4) Soap base: for the making of the herbal soap we need a soap base
- 5) Cut the soap base: cut the soap base into small pieces
- 6) Melt the soap base: in the beaker, soap base is melted by heating
- 7) Addition of essential oil: addition of essential oils such peppermint oil, lavender oil, etc
- 8) Mixing of all content: addition of herbal extract and soap base solution and essential oil in a beaker mix well throughout in beaker
- 9) Pouring of solution in mould: solution is pour in soap mould which is used for making of soap which give shape to soap

10) Lubricating to soap base : lubricating to soap mould with cocunt oil apply cocunt oil throughout to soap mould by these way soap solution is not stick with mould that's

11) Soap solution is kept in soap mould for at lest 2to 3 hours for maki

Use of Soap

- Treat acne antibacterial properties of neem fight acne causing bacteria which help in the treatment and prevention of acne.
- Tackles blackheads and whiteheads.
- Aloe vera shows moisturizer it is moisture the skin without giving it a greasy feel. So it is perfect for anyone with an oily skin.
- It also fight sunburn oracle. This soap is mainly used all skin problem

Herbal medicinal products are in greater demand than the synthetic ones because of many reasons

- Lesser Side effects
- Better safety and efficacy
- Easily available
- Better compatibility with additives
- Potent therapeutic effect
- Cost-friendly
- Greater are for selection
- No requirement of animal testing
- Better compatibility with all types of skin

Disadvantages of herbal soap

- **Variable Quality:** Herbal soaps are available in a wide range of formulations, and the quality may vary. Some herbal soaps may contain lower-quality ingredients or lack the desired efficacy, which can affect their performance.
- **Shorter Shelf Life:** Herbal soaps may have a shorter shelf life compared to synthetic soaps, as they do not typically contain preservatives. This means that they may spoil or become less effective over time.
- **Higher Cost:** Herbal soaps may be more expensive compared to synthetic soaps, as they often contain higherquality natural ingredients. This can make them less affordable for some consume

Evaluation Test of soap

The herbal soap formulated was evaluated by the various evaluation parameter

1) Organoleptic evaluation

Colour: Green or Dark green

Odour: Aromatic

Appearance: Good

2) Physical evaluation

The formulated Herbal soap was evaluated for the following properties which are given below

a) pH : the pH was determined by using pH paper the pH was found to be basic in nature

b) Foam retention : 25 ml of the one precent soap solution was taken into a 100ml graduated measuring cylinder the cylinder was covered with hand and shaken 10 times the volume of foam at 1 minute interval for 4 minute was recorded it was found to be 5 minute

c) moisturizing effect : test how the soap affect skin hydration skin should feel soft and not overly dry after use – Leaves skin feeling soft and hydrated

3) Safety and Sensitivity Test :

Patch Test: conduct patch test on a small area of skin to check for any adverse reaction – no adverse reaction was found

III. RESULT

The preparation and evaluation of multipurpose herbal soap was done .The physicochemical parameters of the prepared soap were determined The formulations exhibited good appearance characteristic as well as the PH was found in the range which is the desired PH. Other parameters such as percentage Foam height, Foam retention, and Moisture content were determined. . the pH of the herbal formation was 7-8 which was optimum for use on the skin. Higher as well as lower pH of soap refers to the harmful effects on the skin. The foaming index of the given herbal formulation was found to be 16.5 while the foam retention time was found to be 5 minutes. This means the lather-producing ability of the soap was satisfactory and stable the moisturizing effect of herbal soap was studied it leaves skin soft and hydrated for safety and a sensitivity test was performed in this test patch test is performed which showed no adverse reaction was found

IV. CONCLUSION

The herbal soap made from mango leaves, teak leaves, almond leaves, and neem leaves is a , natural product with several beneficial properties. It effectively cleanses, moisturizes, and soothes the skin while being safe and gentle for regular use. The combination of these herbal ingredients provides a well-rounded skincare product that can address various skin concerns such as dryness, acne, and irritation. This soap offers a pleasant user experience with its natural fragrance and smooth lather, and its duration givesgives. Good value for use over time. For those seeking a natural alternative to commercial soaps, this herbal soap formulation provides a compelling option with its blend of nourishing and therapeutic ingredients.

REFERENCES

- [1]. https://www.researchgate.net/publication/376479065_formulation_and_evaluation_of_poly_herbal_soap
- [2]. <https://medicaljournalshouse.com/index.php/PharmaceuticalSci-Pharmacology/article/view/1031>
- [3]. https://www.researchgate.net/publication/345990554_Development_of_a_Herbal_Soap_using_Selected_Medicinal_Plants_and_Evaluation_of_Its_Antimicrobial_Activity
- [4]. <http://ir.kdu.ac.lk/handle/345/3083>
- [5]. <https://innspub.net/formulation-development-and-characterization-of-herbal-soap-infused-with-kapama-euphorbia-neriifolia-diplazium-esculentum-and-coleus-blumei-extracts/>
- [6]. https://www.researchgate.net/publication/340698545_Formulation_and_Evaluation_of_Herbal_Soap