

Formulation & Evaluation of Harbal 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- functioned 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 evalution of soap

I. INTRODUCTION

Traditional medicinal plant such as mango,teak,almond,and neem have been recognized for their therupatic properties and are commonly used in various culture for treating skin aliment This study aims for formulation of multipurpose soap by incorporate mango,teak,neem,almond Each of these ingrident have unique bioactive properties which are contributing in herbal soap Mango leaves have antimicrobial properties and also contributing to skin protection teak leaves are for antibacterial and antiinflamatory effect almond leaves are for moisturizing effect while neem leaves are for antiseptic and antifungal The rational behind combining these specfic ingrident lies in their synergetic potential to enhance clean and skin regeneration by formulating a soap that give benefit of these herbal extract

We aim to devolpe an effective ,moisturizing smooth soap for all basis

This research will explore the prepration methods of multipurpose soap evalute its potential benefit based on the properties of each ingredient and discuss safety consideration including usage and potential adverse effect additionally we will highlight the importance of quality control and sourcing of herbal ingredient to ensure the safety and efficacy of product

Material and methods

The following powder ingredients are used for herbal soap this reserch article is about 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 ingrident used in herbal soap are given below

List of materials

1) mango leaves



Scientific classification

Family: Anacardiaceae

Scientific name :mangnifera indica

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

2) Almond leaves



Scientific classification

Family: Rosaceae

Scientific name: *Prunus dulcis*

The almond leaves give moisturizing effect

- 2) they have soothing and anti-inflammatory properties
- 3) skin brightening: almond leaves are helped in brightening of skin
- 4) sun protection: almond oil is used as natural sunscreen
- 3) Teak leaves



Scientific classification

Family: Lamiaceae

Scientific name: *Tectona grandis*

- 1) anti-inflammatory effect: they contain compound which show soothe and clam to irriated skin
- 2) astringent: they show astringent properties which are used in oxidative stress
- 3) antimicrobial: they show antimicrobial properties which are used to inhibit the growth of bacteria and harmful micro organisms

4) Neem leaves



Scientific classification

Family: meliaceae

Scientific name: *Azadirachta indica*

- 1) Antibacterial properties: neem leaves contain strong antibacterial properties which are used in acne caused by bacteria
- 2) antifungal: neem leaves also used to treat fungal infection caused to skin
- 3) moisturizing effect: neem leaves have moisturizing properties and it help to hydrate the skin
- 5) Rose water



is a byproduct 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

Plant extract and their Role

Name of plant	Role
Mango leaves	Antioxidant antimicrobial
Almond leaves	Moisturizing effect
Teak leave	Skin brightening effect
Neem leaves	Antiseptic, antifungal
Rose water	cleanser

Extraction process

- 1) Preparation of mango leaves extract : take 4 or 5 dried or fresh leaves of mango wash these leaves and blend in Griender to grind make it paste



- 2) preparation 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) preparation 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) preparation of neem leaves extract : take 4 or 5 dried leaves or fresh leaves wash these leaves

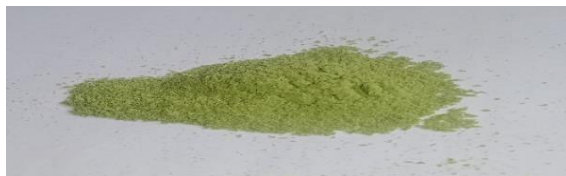


Figure- of solution of neem leaves extract

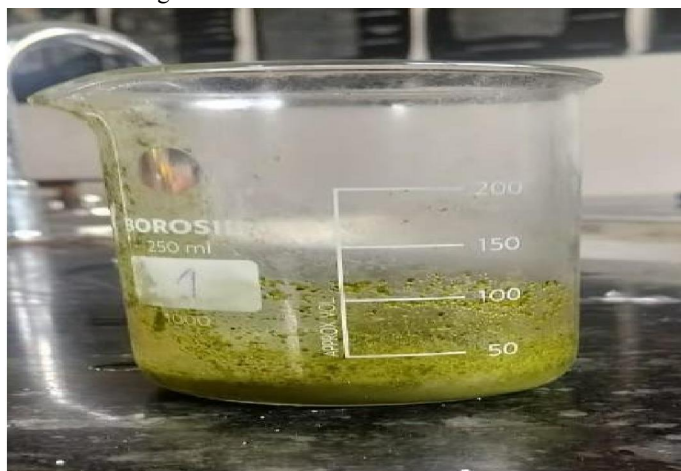


Figure- mango and teak leaves extract pic



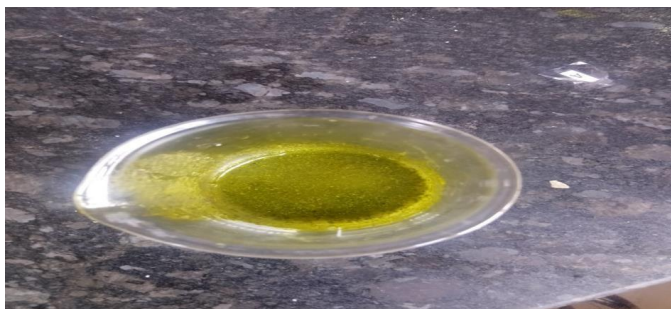


Figure- neem and almond leaves extract pic

Formulation table

Ingedient	Quantity taken
Mango leaves extract	
Teak leaves extract	
Almond leaves extract	
neem leaves extract	
Rose water	
soap base	

Procedure

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

1. 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 griend the leaves into a fine powder using blender



3) stain the leaves :to obtain a clear herbal infusion





Figure- soap base

- 4) soap base: for the making of the herbal soap we need soap base
- 5) cut the soap base : cut the soap base into small pices
- 6) melt the soap base : in beaker soap base is melted by heating
- 7) addition of essential oil: addition of essential oil such peppermint oil, lavender oil etc



Figure-melting of soap

- 8) mixing of all content: addition of herbal extract and soap base solution and essential oil in a beaker mix well throughoutly 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 making of soap





Figure – soap making mould



use of Soap

- Treat acne antibacterial properties of neem fight acne causing bacteria which help in the treatment and prevention of acne.
- Tackles blacheads 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 oracne. 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

Disavantage 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 ingradients. 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

i. Colour : Green or Dark green

ii. Odour : Aromatic

iii. Apperance : 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 percent 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

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 sensitivity test is performed in this test patch test is performed which show no adverse reaction was found

II. 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 gives 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.

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