

Formulation and Evaluation of Herbal Neem Soap

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Abstract: Herbal products have an item of global importance both medicinally and economically. Although usage of these products has increased, their quality, safety and efficiency are serious concern in industrialized and developing countries. The herbal soap was formulated using the leaf and bark extract of *Azadirachta Indica*, *Tulsi* ayurvedic cosmetics are also known as the herbal cosmetics the natural content in the herbs does not have any side effects on the human body. All natural ingredients are readily available at local herbal markets, cosmetics are components of taking care of the skin and other body parts because of the dangerous *Uv* rays and other pollutants that are present in today's environment.

Keywords: Herbal products

I. INTRODUCTION

Soaps are water soluble sodium or potassium salt fatty acids. Soaps are made from fats and oils by treating them chemically with a strong alkali, soap is different the way in which people commonly use word. Soaps are cleaning agents which may be solids, liquid, semisolid, powder they are used to remove dirt, include dust, microorganisms stains, bad smell to maintain health, beauty and bad odour from body. The Sanskrit name as "Nimba" comes from the term "Nimbati Swasthyamdadi" which means to give good health. It improves general skin, heart and immunity combating bacterial infection such as acne, boils and ulcers help to even out your skin tone and complexion.

Classification of Neem

- ▶ Common name : Neem
- ▶ Scientific name : *Azadirachta Indica*.
- ▶ Kingdom : Plantae
- ▶ Order : Sapindales.
- ▶ Family: Meliaceae.
- ▶ Genus : *Azadirachta*.
- ▶ Species : *Indica*.



Properties and characteristics:

- Neem leaves have many medicinal properties including anti-inflammatory, antibacterial, antifungal, antiviral, antioxidant, anticarcinogenic.
- Neem can help with skin diseases like acne, eczema, and psoriasis; it can also help cure acne and maintain skin glow.
- Neem leaves are rich in antioxidants which can help protect the liver from damage.
- Neem has antidiabetic properties that can help to control blood sugar levels.

Advantages

- Beneficial in treating acne.
- Help to protect against diabetes.
- Effective in treating malaria symptoms.
- Prevents development of blemishes and pimples.

- Helps to eliminate dandruff and strengthen hair.
- Boosts the immune system.

Disadvantages

- Neem is possibly unsafe when taken by mouth in large doses or for long periods of time.
- It might harm the kidneys and liver.
- Long term consumption of Neem extract may cause severe skin dryness.
- Excessive consumption extracts may develop kidney stones.

II. REVIEW AND LITERATURE

Exist on antimicrobial properties : A review of literature that highlights neema effectiveness against skin pathogens like staphylococcus aureus, Propioni Bacterium, acnes etc.

Studies on formulation and safety: summary of research focused on neem soap formulation, safety testing, and dermatological studies confirming the hypoallergenic or irritant free status of neem based products.

Comparatively studies : Literature comparing soap with synthetic or other herbal soap to understand the advantages and limitations of neem based formulations.

III. MATERIAL AND METHODOLOGY

Materials :

To formulat a herbal neem soap, several key ingredients are typically used. Here’s a breakdown of essential material, categorized by their functions in the formulation

1. Base ingredients :

Carrier oils : These oils forms the soap base and provide moisturizing and lathering properties common options include: coconut oil ,olive oil, palm oil, castor oil, sodium hydroxide.

2. Active ingredients :

- Neem oil : Extracted from the seeds of neem tree ,neem oil provides the primary antibacterial, antifungal and healing benefits. It should be added in controlled amount due to its potency and strongscnt.
- Neem leaf powder or extract : powered neem leaves or neem leaf extract can enhance the soaps antimicrobial properties and add a mild exfoliating texture.

3. Additional functional ingredients

Essential oil : essential oils like lavender, tea tree or Eucalyptus can enhance the scent and add further skin benefits, and helps mask neem strong smell. Tea tree oil for instance, has antibacterial properties, lavender can be calmine.

Colourants : Natural colourants like spirulina powder/ green or turmeric powder/ yellow can be added for an appealing natural colour without synthetic dies.

4. Distilled water :

► Distilled water is commonly used as a solvent in the soap making process to dissolve lye and health blend ingredients. It helps in the proper safonification of oils.



Methodology :

1. Prepare the work area and safety gear :

- Where goggles, gloves, and a mask and ensure your work space is well ventilated
- Gather all ingredients and tool to have everything within reach

2. Measure ingredients :

- Weigh each ingredients precisely using a digital scale.
- Measure the sodium hydroxide and distilled water separately. Use a lye calculator to determine the correct amount based on the oils used in the recipe.

3. Prepare the lye solution

- Carefully add the lye to the water (never reverse, to prevent splashing). stir gently until fully dissolved.
- The mixture will heat up quickly, so set it aside in a safe area to cool to about 100 to 110°F (38-43°C.)

4. Heat the oils :

- In a heat safe container, combine the oil (coconut oil, olive oil, palm oil, castor oil ,neem oil.) and melt them if solid. Heat them to about 100-110°F to match the temperature of the lye solution.

5. Combine lye solution and oils

- Once the oils and lye solutions are within 5-10°F of each other, carefully pour lye solution into the oils.
- Use a stick blender to blend the mixture until it reaches “ Trace”(light pudding like consistency where trails are visible on the surface.)

6. Add neem and other additives :

- Add the neem leaf powder, neem oil and essential oils.
- Stir thoroughly to ensure even distribution of the neem powder and essential oils through the soap.

7. Pour into mold :

Pour the soap mixture into a soap mold, spreading it evenly. Tap the mold gently on the counter to remove any air bubbles.

8. Curing process

- Cover the mold with plastic wrap or a lid, then insulate it with a towel to keep the soap warm as it sets.
- Allow the soap to sit in the mold for 24-48 hr. to harden.

9. Unmold and cut :

- Once firm, remove the soap from mold and cut into bars.
- Place the bars in well ventilated area to cure for 4-6 weeks. This curing period allow the soap to harden and become milder.

10. Label and store :

- Once fully cured, the soap is ready for use.
- Store in a cool, dry place and keep extra bars in an air tight container.



Herbal Medicated Neem Soap
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Aim and objectives :

Aim : To evaluate a herbal neem soap that incorporates the natural antibacterial, antifungal and skin soothing properties of neem , intended to provide and effective gentle cleansing solution with added benefits for skin health.

Objectives :

- Utilize neems medicinal properties for potential benefits in skin care, including antimicrobial and anti-inflammatory effects.
- Select oils and additives that compliment neem, providing a balanced, moisturizing, skin friendly products.
- Asses factors such as ph, hardness, texture, foaming ability and cleansing epicasy to ensure a high quality products.

III. CONCLUSION

The herbal soap has been produced successfully from neem leaves extract in the study. The result from the physicochemical properties of the neem soap prepared was compared to neem seed oil soap and commercial neem soap. The result imply that the neem soap is produced and is suitable for humans skin. Moreover, it is product innovation of natural medicated soap produced from neem leaves extract that is free from chemicals such as artificial colourants, artificial fragrance thus, can be affordable alternative therapy for consumer who have skin problems.

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