

# **Evaluation & Formulation Herbal Soap**

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#### Abstract

A herbal soap and hand sanitizer was formulated using the leaf and bark extract of Azadirachta indica, Ocimum tenuiflorum ,Sapindus mukorussi and Acacia concinna powder. Ayurvedic cosmetics are also known as the herbal cosmetics the natural content in the herbs does not have any side effect on the human body[5] most herbal supplement are based on several botanical ingredients with long histories of traditional or folk medicine usage. Among the numerous botonical ingredients available in the market today [6]. Numerous chemical toxins microorganism present in the atmosphere may cause chemical infection and damage to skin cosmetics alone are not sufficient to take care of skin and body parts. Neem (Azadirachtaindica) tree has attracted worldwide prominance owing to its wide range of medicinal properties, neem leaves and its constituents have been demonstrated to exhibit antiinflammatory, antihyperglycemic, antiulcer [7] antimalarial, antifungal, antibacterial, antimutagenic and anticarcinogenic properties. This study was conducted to evaluate the effect of aqueous ,ethanolic and ethyl acetate extract from neem leaves. Herbal soap ingredients were used reetha, neem, shikekai and tulsi., in which neem leaf and seed were found effective against some dermatophytes. Shikeki and Reetha acts as a detergent and having cleaning and foaming activity and Tulsi shows antiviral activity [8].

### **KEYWORDS**

Herbal soap, formulation, hand sanitizer, Azadirachta indica, Ocimum tenuiflorium.

#### **Objectives:**

The ultimate aim of this study is 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.

#### **INTRODUCTION**

Herbal soap preparation is a medicine or drugs it contain Antibacterial & antifungal agents which e mainly uses of part of plants such as like leaves, stem, roots &fruits to treatment for a injury or disease or to achieve good health [11]. This preparation possess antimicrobial property are administered topically and available to apply in various forms like creams ,lotion ,gel ,soap, solvent extract or ointment .the variety of creams & soap properties have been used to treat various skin disorders [12]. Mostly skin infection are caused by fungi, staphylococcus aureus and streptococcus species [11]. Ethnomedically, juice& extract from leaves of the plants are topically applied as antimicrobial and anti-inflammatory agents in treatment of skin disease including eczemas, ringworm and pruritus [13]. The succulent gel form is used to disorders of psoriasis. Crude preparation of soapy plant are able to soften the skin epidermis enhance greater penetration and cleaning acne and also promote healing and resolution in quickly in time.

In this review article herbal soap conataining neem, tulsi, shikekai and reetha as natural plant ingredients and this content gives or shows antibacterial antifungal & antiinflammatory activity. In this soap, neem is main compound, and shows medicinal properties. Neem leaf and its extract

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exhibit immunomodulatory anti-inflammatory, antiulcer antimalarial, antifungal antibacterial antioxidant anticarcinogenic property. Tulsi has got the greatest medicinal value. tulsi to be effective for diabetis they reducing blood glucose level tulsi also used in severe acute respiratory syndrome. Juice of its leaves gives relief in cold fever bronchitis and cough. Tulsi reduce stress, enhance stamina relief inflammation and also shows antifungal activity so tulsi is also used as main compound in this herbal soap. The main antifungal activity of Tulsi serves to be beneficial in soap formulation [7].

Reetha is an exceptional cleanser. Hence it's a perfect substitute for soap andfacewash due the presence of saponin. It is also good for use on sensitive skin. A combination of Reetha and Chickpeas gives a gentle and enriching experience to the skin it has conditioning properties, therefore, it keeps skin moisturized and cool. Reetha prevents the skin from drying and keeps it soft and supple it also helps to treat eczema and psoriasis. Shikekai is quit effective in treating various skin infection like scabies and also used as a anti- wrinkles property [7]

#### EXPERIMENTAL MATERIAL AND METHODS

#### Chemicals

These include stearic acid, soft paraffin,ethanol, orange oil.

# Collection, identification and processing of plant

The leaves of Azadiracta indica, Ocimum tenuiflorum, and seeds of Sapindus mukorossi and pods of Acacia concinna were collected from different matured plant. The leaves were dried in hot air oven, pulverized and stored in airtight bottles for the studies.

#### Extraction

The Azadiricta indica, Ocimum tenuiflorum, Sapindus mukorossi and Acacia concinna powder was extracted with water by decoction process. 9 gm of above stated powder was taken in conical flask and extracted with water for four hours with occasional agitation. Then filtered.

To obtain extract of Azadiracta indica, Ocimum tenuiflorum, Sapindus mukorossi and Acacia concinna powder was incorporated into a soap formulated with basic glycerin soap and which contain 1 gm stearic acid, 0.70gm soft paraffin. Weighed 1gm of stearic acid, 0.70gm soft paraffin, 5ml ethanol was taken. Glycerin basic soap was melted first and to it 1gm stearic acid, 0.70gm soft paraffin, 5ml ethanol were added. Extract was incorporated into melted solution with continuous agitation for 30 minutes until molten mixture became homogeneous. The semisolid mixture was poured into a mould and allowed to solidify.

#### **Contents of the SoapNEEM**



#### Part typically used: Leaves

#### Colour: Green

**Description**:- Compound alternate, rachis 15-25cm long, 0.1cm thick, leaflet withoblique, serrate, 7-8.5 cm long and 1-1.7 cm wide slightly yellowish green in color.

**Constituents**:- Flavonoids, Alkaloids, Azadirone, Nimbin, Nimbidin, Terpenoids, Steroids, Margosicacid, Vanilic acid, Glycosides, B-sitosterol, Nimbectin, Kaempeerol, Quercursertin are present in Neem Leaf. *Benefits of Neem :* 

#### Treats Acne

Neem has an anti-inflammatory property which helps reduces acne. Azadirachta Indica also helps reduce skin blemishes.

Nourishes Skin

Neem is a rich source of Vitamin E which help repair damaged skin cells.

#### Treats Fungal Infections

Neem has scientifically proven antifungal property which helps treat fungal infections.

#### Useful in Detoxification

Neem can prove useful in detoxification both internally and externally. Consumption of neem leaves or powder stimulates kidneys and liver increasing the metabolism and eliminating the toxins out of the body. Externally, neem scrubs or paste can be used to remove germs, bacteria, dirt, etc from your skin preventing rashes and skin diseases.

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#### • Increases Immunity

Neem is known for its antimicrobial and antibacterial effects. These properties play a huge role in boosting immunity.

#### • Insect & Mosquito Repellent

You can burn a few neem leaves to ward off the insects. This is also effective against different types of mosquitoes. From all the home remedies for malaria, neem is the best for treating the early symptoms of malaria.

Prevents Gastrointestinal Diseases

Neem's anti-inflammatory properties help reduce inflammation of the gastrointestinal tract which helps reduce a series of diseases like constipation, stomach ulcer, flatulence, etc.

#### Treats Wounds

Neem leaves have an antiseptic property which is why it is used to heal wounds.

#### Reduces Dandruff

Neem is extensively used in shampoos and conditioners. Azadirachta Indica has antifungal and antibacterial properties which help eliminate dandruff and strengths your hair.

#### RITHA



Biological name:- Sapindus mukorossi Part Typical used:- Seeds Colour:- Brown Uses:- Detergent , Surfactant

**Description:**- The fruit is a small leathery skinned drup 1 to 2 cm in diameter, yellowripening blackish , containing 1 to 3 seeds

#### Reetha benefis :

It cleans the skin thoroughly removing the dirt and oiliness. The gentle cleanser does not disturb the skin microbiome. The remnant of the saponins on the body in addressing skin concerns likeFreckles, age spots, acne, dryness etc. It is good to use for all skin types and all age group individuals. People with sensitivity and allergic to synthetic cleansers often find reetha helpful.

#### Tulsi



Biological name :- Ocimumtenuiflorum

Common name:- Holy basil Chemical Constituents:- eugenol ,germacrene , terpenes Part Typical used:- Leaves Colour:- Green Benefits of Tulsi Soap: 1.Acts as an antibacterial clearing up skin irritations and

#### acne.

The soap acts as an antibacterial agent, and thus may help tending to acne. Both plants are considered to play a role in this, as both have been <u>shown to have some antibacterial</u> roperties1.

# 2. Chock full of antioxidants.

Another reason it's so good for skin is due to the <u>antioxidant</u> profile carried over from the oils. Antioxidants, we know, <u>help temper inflammation</u>, fight free radicals, and aid the skin in a number of ways (like their brightening effects.) Essentially any skin condition could benefit from antioxidant use.

3.It is smooth, soft and gentle without leaving a residue or sticky film

While <u>bar soaps</u> have many great qualities (better for the environment being one of the largest), some complain of the overall sensorial experience—or that they can often leave a film behind. Anecdotally, users claim that this soap doesn't have those same issues. Instead you are left with clean, fresh, (yet not stripped) skin.

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# © 2023 IJNRD | Volume 8, Issue 5 May 2023 | ISSN: 2456-4184 | IJNRD.ORG **Table 1**

#### SHIKEKAI



Biological name: - Acacia concinna

Common name:- shikekai

Chemical Constituents:- Spinasterone, Acacic acid

Part Typical used:- Fruits pods

Colour:- Brown

Uses:- Antidandruff detergent.

Benefits of shikakai soap :

#### Shikakai For Skin

Shikakai is a potent herb and is beneficial for the skin. Its antibacterial properties help treat a skin infection called scabies. The anti-aging benefits of Shikakai sabun help diminish the appearance of fine lines and wrinkles, making it a youthful and <u>glowing skin</u>.

# Shikakai Soap Benefits For Hair

Is Shikakai good for hair? A lot of people have this thought on their minds. We have listed

Shikakai For Hair Softness and Shine

Shikakai soap is made up of natural ingredients that give shine to your hair and make it frizz-free.

#### • Shikakai For Dandru<mark>ff</mark>

Shikakai has natural anti-fungal properties which nourish and fend off itching and dryness from your scalp. Regular use of Shikakai soap can <u>cure dandruff</u>.

#### Shikakai For Stronger Thicker Hair

Shikakai sabun strengthens the roots of the hair, making it stronger and healthier. It also helps minimize hair fall and <u>adds volume to your hair</u>.

Chemicals	Source	
Ethanol	Laboratory reagent	
Stearic acid	Laboratory reagent	
Soft paraffin	Laboratory reagent	
Orange oil	Laboratory reagent	

Herbal plant	Source	
Neem	Plant	
Shikekai	Plant	
Reetha	Plant	
Tulsi	Plant	

# FORMULA [1]:

The formula shown in Table 3 is best suited for the

preparation of herbal soaps.

Sr.	Ingredients	Quantity	Use
No.		(%)	
1	Stearic Acid	1 gm	Hardening
2	Soft Paraffin	0.70	Hardening
3	Ethanol	5ml	Solvent
4	Neem Powder	4gm	Antibacterial
5	Reetha	3gm	Surfactant
6	Shikekai	2gm	Cleanser
7	Tulsi	1gm	Antiviral
8	Orange oil	q.s	Perfume

The herbal soap formulated was evaluated for the following:

# 1. organoleptic evaluation:-

- i. Colour :-brown
- ii. Odour :-orange
- iii. Appearance :-Good

# **2.** Physical evaluation

The herbal soap formulated was evaluated for the following properties:

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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 theone percent soap solution was taken into a 100 ml graduated measuring cylinder the cylinder was covered with hand andshaken 10 times . the volume of foam at 1 minutes interval for 4 minutes was recorded . it was found to be 5 minutes .
- c) Foam height : 10 cm
- d) Antimicrobial test :- there was various study conducted on antimicrobial activity of neemand hence according to research paper by antimicrobial activity of Azadiricta indica leaf, bark and seed extract.

#### CONCLUSION

The plant Azadiricta india, Ocimum tenuiflorum, Sapindus mukorossi and Acacia concinna were extracted using water and subjected to various evaluation test according to previous research the antimicrobial activity of Neem was studied . the prepared formulation when tested for different test gave good results . It does not give any irritancy to skin it was determined by using these soap by few volunteer hence it is proved that soap does not give any irritancy to skin . Furthermore the prepared soap were standardized by evaluating various physico chemical properties such as pH appearance odour in which the exhibit satisfactory effect.

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