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A REVIEW ON 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 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. 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 (Azadirachta indica) tree has attracted worldwide prominance owing to its wide range of medicinal properties, neem leaves and its constituents have been demonstrated to exhibit anti-inflammatory, antihyperglycemic, antiulcer, 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 soapingredients 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 andhaving cleaning and foaming activity and Tulsi shows antiviral activity.
KEYWORDS: *Cosmetics, Herbal, Soap, Formulation, Antibacterial*

INTRODUCTION

The word cosmetic was derived from the Greek word "kosm tikos" meaning having the power, arrange, skill in decorating1. The origin of cosmetics forms a continuous narrative throughout the history of man as they developed. The man in prehistoric times 3000BC used colors for decoration to attract the animals that he wished to hunt and also the man survived attack from the enemy by coloring his skin and adorned his body for protection to provoke fear in an enemy (whether man or animal)2.

The cosmetics, according to the Drugs and Cosmetics Act is defined as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part there of for cleansing, beautifying, promoting attractiveness or altering the appearance. The cosmetic does not come under the preview of drug license. The herbal cosmetics are the preparations containing phytochemical from a variety of botanical sources, which influences the functions of skin and provide nutrients necessary for the healthy skin or hair. The natural herbs and their products when used for their aromatic value in cosmetic preparation are termed as herbal cosmetics3-5. The Drug and Cosmetics Act specify that herbs and essential oils used in cosmetics must not claim to penetrate beyond the surface layers of the skin nor should have any therapeutic effect5.

*Herbal soap preparation is a medicine or drugs it contain Antibacterial and antifungal agents which mainly uses of part of plants such as like leaves, stem, roots andfruits to treatment for a injury or disease or to achieve good health6. 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 and soap properties have been used to treat various skin disorders7. Mostly skin infection are caused by fungi, staphylococcus aureus and streptococcus species6. Ethnomedically, juiceand extract from leaves of the plants are topically applied as antimicrobial and anti-inflammatory agents in treatment of skin disease including eczemas, ringworm and pruritus8. 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 containing neem, tulsi, shikekai and reetha as natural plant ingredients and this content gives or shows antibacterial antifungal and anti-inflammatory activity. In this soap, neem is main compound, and shows medicinal properties. Neem leaf and its extract 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, enhancestamina 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 formulation9.
Reetha is an exceptional cleanser. Hence it's a perfect substitute for soap and facewash 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

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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 antiwrinkles property9.*

In ancient time the written information on ayurveda like charaka samhitha and varnya kashaya has explained the usage of herbs in getting glowing complexion. The herbs used were chandana, nagkeshara, padmak, khus, yashtimadhu, manjistha, sariva, payasya, seta (sweta durva) and lata (shyama durva). These ayurvedic herbs are used to purify blood and eliminate vitiated doshas like (vata, pitta, kapha) from the body as they are mainly responsible for skin disorders and other diseases. The herbs mentioned in khushthagna mahakashaya effective in skin disorders, include khadira, abhaya, amalaki, haridra, bhallataka, saptaparna, karavira, vidanga and jati. Some of the natural products used in ancient times include, the use of indigo and raktachandan as bindi/tika, madder root for beautifying lips and cheeks, aloe as skin protectant, chandan, vetiver and haldi as face packs. The use of ayurvedic herbs adds cosmetic value to the products. The ayurveda is well known for the permanent cure for ailments and it is likely evident from the present market trends that the herbal cosmetic product will succeed in capturing the market. The knowledge about the structure and basic function of the skin and its appendages and knowledge of natural or herbal care or remedies for its problems will help to widen the importance of herbal cosmetics. The skin hasthe natural ability in continuously repairing to maintain its normal function. In young age the common skin problem are greasy skin and acne and during old age the skin becomes dry. To have a better skin, it is important to understand how our skin functions and to take proper precautions to maintain it. The skin are classified into 4 groups and for each class appropriate ingredients should be used to maintain its natural functionality.

Skin Types and Basic Skin Care

The requirements for the basic skin care:

a) Cleansing agent, which remove the dust, dead cells and dirt that chokes the pores on the skin. Some of the common cleansers include vegetable oils like coconut, sesame and palm oil.
b) Use of Toners: The toners help to tighten the skin and keep it from being exposed to many of the toxins that are floating in the air or other environmental pollutants. Some of the herbs used as toners are witch hazel, geranium, sage, lemon, ivy burdock and essential oils.
c) Moisturizing: The moisturizing helps the skin to become soft and supple. Moisturizing shows a healthy glow and are less prone to aging. Some of the herbal moisturizers include vegetable glycerin, sorbitol, rose water, jojoba oil, aloe vera and iris.

Herbal Soap

Herbal Soap Preparation is a medicine it contain antibacterial, anti-ageing anti-oxidant, anti-septic properties which mainly uses of part of plant like seeds, rhizomes, nuts and pulps to treatment for an injury or disease or to achieve health.[5] Herbal soap do not contain the artificial colours,flavours, fluorides etc., when compared to the content of commercial soap.[6] Herbs are the natural productsmostly found in the treatment of almost all diseases and skin problems owing to their high medicinal value, cost effective ness, availability and compatibility.[7]

Most Common Skin Disease

Most common skin diseases are Eczema, Acne, Rashes, Psoriasis, Allergy, dry skin, urticaria etc.

Soap

Soap is common cleansing agent well known to everyone. Many authors defined soap indifferent ways. Warra,19 regarded it as any cleaning agent, manufactured in granules, bars, flakes, or liquid form obtained from by reacting salt of sodium or potassium of various fatty acids that are of natural origin (salt of non-volatile fatty acids). Soap can also be said to be any water-soluble salt of fatty acids containing eight or more carbon atoms. Soaps are produced for varieties of purpose ranging from washing, bathing, medication etc. The cleansing action of the soap is due to the negative ions on the hydrocarbon chain attached to the carboxylic group of the fatty acids20. The affinity of the hydrocarbon chain to oil and grease, while carboxylic group to water is the main reason soap is being used mostly with water for cleaning purposes21.

In addition to basic raw materials, other substances are added to the composition in order to improve its application. For examples soap made for medicinal purposes other medicinal importance ingredients are added to it to produce medicated soaps22. In addition to potassium and sodium salt, other metals such as calcium, magnesium and chromium are also used to produce metallic insoluble soap that are not used as cleaning agents, but are used for other purposes22. Other properties of the soap such as hardness are function of the metallic element present in the salt. For example soap made up of Sodium salts shows little hardness compare to potassium salts soaps, provided the same fat or oil is used in both cases23. These are characteristically different from soaps made from divalent metals such as magnesium, calcium, aluminum or iron which are not water soluble, Soaps are use for laundry and cleaning purposes, though the used of calcium soap in the formulation of animal feed have been reported 24. It is generally known that soap is produced by the saponification of a triglyceride (fat or oil). In the process the triglyceride is reacted with a strong alkali such as; potassium or sodium hydroxide to produce glycerol and fatty acid salts.

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Fig: 1-Soap

The Discovery and the Art of Soap-making up to 1660. Soap, in the sense of the product obtained by the action of a base on fats and oils, has played an important part in the history of civilization, but its discovery was quite accidental and its usefulness but slowly appreciated. It is quite impossible, therefore, to follow the lead of Liebig and others and try to assess past civilizations by reference to their knowledge or ignorance of soap. Were it otherwise, the Fanti of West Africa and the Gauls of the first century A.D., who apparently discovered soap independently, had reached a higher degree of civilization than the Egyptians or the Greeks, to both of whom soap was unknown. Both the Egyptians and Greeks, however, were acquainted with medicinal preparations in which alkalis, tallow and various vegetable oils were present, together with several other ingredients. The Papyrus Ebers records the use of such ointments for herpes and for removing fat round the eyes25. Many kinds of lead plasters were also known. Again, the Berlin Papyrus gives instructions for making an ointment with natron and tallow27, and Hippocrates used mixtures of oil and soda as ingredients of purgatives26. According to early manuscripts the Assyrians used a mixture of castor-oil and alkali as a head wash27 In addition to this knowledge the proparation of alkaline lyes from the ashes of plants was well known to nearly all nations from very early times; but their use in the manufacture of soap appears to have taken place at any rate not earlier than the Christian era.

Skin

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 skinthat coversmuchof the body and hairless skin as that of palms ofHands and so les 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.

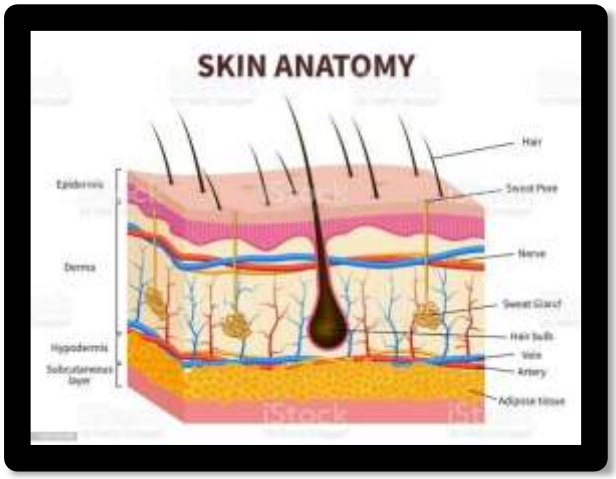


Fig:2- Skin Anatomy

MATERIAL AND METHOD

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

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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.

Formulation of herbal soap:28

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 Soap

1. Neem



Fig: 3- Neem

- Botanical name***:Azadiracta indica***
- Part typically used: Leaves
- Color: Green
- Botanical name***:Azadiracta indica***
- Part typically used: Leaves
- Color: Green

Description: Compound alternate, rachis 15-25cm long, 0.1cm thick, leaflet with oblique, 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

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2. TULSI



Fig. 4- Tulsi

- Botanical name: ***ocimum tenuiflorum***
- Common name: holy basil
- Part of typical used: leaves
- Color: Green
- Chemical constituents: eugenol, terpens, germacrene

5. RITHA



Fig.:5- Ritha

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- Botanical name: ***sapindus mukorossi***
- Part typical used: seed
- Colour: Brown
- Uses: Detergent, surfactant
- Description:- The fruit is a small leathery skinned drup 1 to 2 cm in diameter, yellow ripening blackish , containing 1 to 3 seeds

6. SHIKEKAI



Fig: 6 – Shikekai

- Biological name:- Acacia concinna
- Common name:- shikekai

- Chemical Constituents:- Spinasterone , Acacic acid
- Part Typical used:- Fruits pods
- Colour:- Brown
- Uses:- Antidandruff detergent.

Evaluations30,31

The herbal soap formulated was evaluated for the following:

1. Organoleptic Evaluation

- Colour: brown
- Odour: orange
- Appearance: Good

2. Physical evaluation32,33

The herbal soap formulated was evaluated for the following properties:

a) pH: the pH was determined by using pH paper, the pH was found to be basic in nature
b) Foam retention: 25ml of the one percent soap solution was taken into a 100ml 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: 10cm
d) Antimicrobial test: there was various study conducted on antimicrobial activity of neem and 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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