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Formulation & Evaluation of Poly Herbal Soap

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Abstract: *Herbal cosmetics are prepared by the association of bioactive ingredients and pharmaceutical products. The presence of number of photochemical and botanicals in the herbal products have dual significance, one that they are used as cosmetics for body care and another that photochemical improve the biological functions of human body naturally results in healthy skin. As the realization said that the chemical medicines are not always work as magic bullets and they may have side effects.*

Keywords: Herbal cosmetics

I. INTRODUCTION

Herbal cosmetics are prepared by the association of bioactive ingredients and pharmaceutical products. The presence of number of photochemical and botanicals in the herbal products have dual significance, one that they are used as cosmetics for body care and another that photochemical improve the biological functions of human body naturally results in healthy skin. As the realization said that the chemical medicines are not always work as magic bullets and they may have side effects. The current trend moves toward the herbalism and use of natural products. Indian herbs are the richest source to be used in cosmetic industries. Herbal cosmetics were gaining tremendous demand in the world market. There is a wide range of herbal cosmetic products used as beauty regime to satisfy the purpose of beautification.

Soap is sodium or potassium salt of fatty acid produced by saponification reaction using sodium or potassium hydroxide.

Based on its chemical properties as an anionic surface active agent (surfactant), soap is used to clean and wash skin and clothing. The soap that are being used in our day to day life have a history going back for about six thousand years. The ancient Babylonians discovered that mixing animal fats with wood ash and water created a cleansing substance which was latterly known as “soap” . In today’s world more and more people are looking for natural solutions to some of the products they are using, especially when it comes to their bodies.

Just as doctors are promoting a healthier lifestyle by choosing natural foods to put in our body, others are becoming more aware of things they are using on the outside of their bodies.

As people begin to look toward natural products, as an alternative to commercial soaps with all their additives, more and more they areturning to natural soaps. People who are suffer There are basically four different types of methods that are used to make soaps are

To formulate a polyherbal soap using a combination of natural plant extracts and evaluate its efficacy and acceptability.

Identify and select suitable herbal extracts based on their traditional uses and scientific literature.

Develop a formulation that includes a blend of selected herbal extracts, ensuring compatibility and stability.

Evaluate the pH, color, odor, and physical appearance of the formulated soap.

Determine the foamability and cleansing ability of the soap formulation compared to standard commercial soaps.

Assess the antimicrobial properties of the polyherbal soap against common skin pathogens such as Staphylococcus aureus and Escherichia coli.

Conduct patch testing or similar methods to evaluate the skin compatibility and irritation potential of the formulated soap.

Conduct sensory evaluation trials to assess the fragrance, texture, and overall acceptability of the polyherbal soap among potential users.

Perform stability studies to evaluate the shelf-life and storage conditions required to maintain the efficacy and quality of the polyherbal soap formulation.

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Compare the performance and efficacy of the polyherbal soap with existing commercial herbal or synthetic soaps available in the market.

Compile the findings into a comprehensive report detailing the formulation process, experimental results, and conclusions drawn from the study.

In this process simply a glycerin base is used, there is not usage of lye. Its easy, not dangerous you may add essential oils or fragrance to your mixture, as well as some coloring.

These processes involve addition of lye or sodium hydroxide and water.

Hot process of soap making simply involves using heat, in order to burn offexcess liquid. The basic soap bases

Glycerin soap bases can come in clear, white or vegetable. This soap bases is more often used in melt and pour soaps, than in other kind of soap,

Lard is another soap base. It's also known as one ofthe most popular bases, as it produces a thick creamy lather, has conditioning properties.

These are a common base used for liquid soap.

Saponification is a process that involves conversion of fat or oil into soap and alcohol by the action of heat in the presence of aqueous alkali (e.g. NaOH). Soaps are salts of fatty acids whereas fatty acids are saturated monocarboxylic acids that have long carbon chains (at least 10) e.g. CH3(CH2)14COOH.

Vegetable oils and animal fats are the traditional materials that are saponified. These greasy materials, triesters called triglycerides, are mixtures derived from diverse fatty acids. Triglycerides can be converted to soap in either a one- or a two-step process. In the traditional one-step process, the triglyceride is treated with a strong base (e.g. lye), which cleaves to the ester bond, releasing fatty acid salts (soaps) and glycerol. This process is also the main industrial method for producing glycerol. In some soap-making, the glycerol is left in the soap. If necessary, soaps maybe precipitated by salting it out with sodium chloride.

Skeletal formula of stearin, a triglyceride that is converted by saponification with sodium hydroxide into glycerol and soap. Fat in a corpse converts into adipocere, often called "grave wax". This process is more common where the amount of fatty tissue is high and the agents of decomposition are absent or only minutely present.

Sonvane Komalarun,et.al (2023) All herbal substances can be found in the nearby herbal market with ease. The plant used to make soap has the ability to soften the skin's epidermis, Provide greater penetration, eradicate acne, and speedup healing and resolution.

Blessy Jacob, et.al, (2019) Many of these soap ingredients are also having healing power Such as aloe Vera, turmeric, and tulsi. They are rich in natural antioxidant,

antiseptic and Antimicrobial properties. The prepared formulation was evaluated for various Physicochemical properties and satisfactory results were obtained.

Jagruti Pravinsing Rajput, et.al (2023) ,In this review herbal soap can be formulated using Cold process system,taking different parameters in consideration as that of skin condition and as that of herbal capabilities and its exertion.

Mahesh D. Shinde, et.al(2023) , The study takes a comprehensive approach, exploring the effects of various Neem leaf extracts. The herbal soap is meticulously crafted, incorporating Neem and Tulsi, demonstrating specific efficacy against dermatophytes, while Tulsi showcases remarkable antiviral properties.

Litrature Review
Selection Of Ingredients
Formulation Of Poly Herbal Soap
Evaluation Of Poly Herbal Soap
Conclusion
Reference

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Orange zest

It consists of dried fruits of Citrus sinesis belonging to family Rutaceae.
Colour- Darkorange red Odor- Aromatic Taste- Bitter
Terpenes, Carotenoids, Flavonoids Reduce skin marks, skin spots Help to skin whitening
Treat pimples and acne
Sandalwood tree
It consists of dried bark of Santalum album belonging to family
Colour- Brown Odour- Aromatic Taste- Unpleasant
Santalol, Cedrol, Esters, Aldehydes, phytosterols
Soothe sunburn Remove
suntan Reduce signs of aging
skin
Shahad
It consists of saccharine liquid prepared from the nectar of the flowers by the hive-bee Apis melifica belonging to family Apadae.
Colour- Yellow brown coloured liquid Odour- Sweet Taste- Sweet
Dextrose and laevulose (70-80%), Dextrin (0.06-1.25%), Proteins
Good for wrinkles and aging Remove dirt from pores

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Grass oil

It is a volatile oil obtained by steam distillation from the leaves and aerial parts of plants Cymbopogonfleuous belong to family Graminae.

Colour- yellowish- brown liquid Odour - resembling to lemon oil Taste- similar to lemon oil

Volatile oil, Hespiridine, Pectin Perfuming agent Flavouring agent

Oleum olivae

It is the fixed oil expressed from the ripe fruit of Olea europoea belonging to family Oleaceae.

Olein, Palmitin, Linolein

Colour- pale yellow Odour- characteristics Taste- faintly acrid Emollient Soothing agent Soften the skin

copra oil

It is an edible oil extracted from the kernel or meat ofmature coconuts harvested from Cocos nucifera belong to family Arecaceae

Colour- yellowish Odour- odourless Taste- delicious

Caproic acid, Caprylic acid

Protect skin Moisturize skin

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palm nut

It is an edible vegetable oil derived from the mesocarp (reddish pulp) of the fruit of the oil palms, primarily the African oil palmElaeis guineensis belong to family Arecaceae.

Colour- golden yellow Odour- unpleasant Taste- harsh flavor

Palmitate, Myristate, Stearate

Moisturizer

promotes smoother skin

1 Orange peel powder Reduce skin marks skin spot, help to skin whitening, treat pimples acne

2 Sandalwood powder Soothe sunburn remove suntan

reduce signs of agins of aging skin.

3 Honey Good for wrinkles and aging, remove dirt from pores.

4 Lemon oil Perfuming agent, flavouring agent

5 Olive oil Emollient, soothing agent, soften the skin

6 Coconut oil Protect skin, moisturize skin

7 Palm oil Moisturizer, promotes smoothers skin

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Fresh oranges were collected Orange from college botany garden. The oranges were washed well with tap water. The peel was separated and cut into the small pieces. Then it was dried in shade for period of 3-4 days. The dried samples were grinded properly into the grinder. To obtain the fine powder it was passed through sieve no.60 and then from muslin cloth. Then this powder was soak in water for 1
hr. then used.
Marketed powder of sandalwood were soak into the water for1 hr. and then used.
Marketed sample of honey were used.
Other ingredients like Olive oil, coconut Oil, Palm Oil, Lemon Oil purchased from local market.

1 Olive oil 157.95ml Emollient soothing agent soften the skin
2 Coconut oil 102.45ml Protect skin moisturize skin Relieve skin
3 Palm oil 76.84ml Moisturizer promotes smoother skin
4 Lye (sodum hydroxide) 47.473ml For saponification reaction
5 Water 115.26ml Solvent
6 Sandalwood extract 0.25% Soothe sunburn remove suntan
reduce signs of aging skin
7 Orange peel extract 5% Reduce skin marks help to skin
whitening treat pimples, acne

8 Honey
q.s Good for wrinkles prevent acne
remove dirt from pores
9 Lemon oil
q.s Perfuming agent flavoring agent
. The required quantity of oils were weighed and mix together and heated until it get melt and mix properly
2. Simultaneously the required quantity of lye is dissolved in water.
3. Then the solution of lye were added into the mixture of oils slowly with vigorous stirring until the saponification reaction takes place.
4. After the formation of thick homogenous mixture the remaining amount of ingredients like orange peel powder extract, sandalwood powder extract, one tablespoon of honey and lemon oil were added to the mixture and stirred the mixture for sometime.
5. Then this mixture was poured into the molds and covered with aluminium foil kept for

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24 hrs in refrigerator.

Clarity and colour was checked by naked eyes against white background, the odor was smelled.

The pH of all the prepared formulations was determined by using Digital pH Meter.

0.5gm of sample of soap was taken dispersed in25 ml distilled water. Then, transferred it into 100 ml measuring cylinder; volume was make up to 50 ml with water. 25 strokes were given and stand till aqueous volume measured upto50 ml and measured the foam height, above the aqueous volume.

25 ml of the 1% soap solution was taken in a 100ml graduated measuring cylinder. The cylinder was covered with hand and shaken 10 times. The volume of foam at 1 minute an interval for 4 minutes was recorded.

For this three volunteers were selected and the prepared soap were given to them and checked for irritation.

The soap was allow stand at temperature above 500 C.

Sr.no	Crude drug	Diagram	Uses
1	Orange peel powder		Reduce skin marks skin spot, help to skin whitening, treat pimples acne
2	Sandalwood powder		Soothe sunburn remove suntan reduce signs of agins of aging skin.
3	Honey		Good for wrinkles and aging, remove dirt from pores.
4	Lemon oil		Perfuming agent, flavouring agent
5	Olive oil		Emollient, soothing agent, soften the skin
6	Coconut oil		Protect skin, moisturize skin
7	Palm oil		Moisturizer, promotes smoothers skin

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The Polyherbal soap was prepared by using crude drug powder extract and then evaluated by various parameters. The prepared Soap have good appearance better cleansing and foaming effect and does not have side effects.

A natural and effective alternative to conventional soaps, providing various skin
benefits and being free from harsh chemicals. These soaps can be effective in cleansing, moisturizing, and addressing various skin conditions due to the synergistic action of
their herbal Ingredients

The formulated herbal soap meets commercial standards and can be used as an alternative to chemical soaps. It has antibacterial properties and improves skin quality, making it soft, smooth, and supple. The study confirms the efficacy of polyherbal soap in promoting skin health.

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