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FORMULATION AND EVALUATION OF POLY HERBAL SOAPTAKING DIFFERENT BIOACTIVE PLANTS

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ABSTRACT
The most prevalent type of skin infection in humans is bacterial, and it needs careful attention both during treatment and to keep skin healthy. Certain extracts from herbal plants exhibit antibacterial properties. The majority of the soaps were This article's frequently used hand wash preparation calls for creating polyherbal soap using a blend of Cestrum Nocturnum and ocimumenuiflorum, then assessing its parameters. The results of the study indicated that the tested soaps may have had antibacterial qualities and could help treat and manage skin infections. caused by bacteria if properly made using the right plant ingredients to target certain pathogenic organisms and packaged with usage and storage instructions It has been demonstratedthat washing hands with soap effectively rids hands of bacteria, germs, and chemicals that mightlead to illness or injury to oneself. Although this is a crucial habit for the general population, it isespecially necessary for those who handle food or work in the medical field.

KEYWORD: Poly-herbal soap: Antibacterial, Cestrum Nocturnum, ocimumenuiflorum.

1. INTRODUCTION

SOAP
The product obtained by processing tallow with ashes was previously referred to as soap (Latin Sapo), which is connected with Latin sebum tallow. "Commercial soap is defined as a body that releases alkali when treated with water.[1] Cleaning agents like soaps are employed as the body's first line of defense against germs. Synthetic soap is one of the many brands of chemically manufactured beauty products we use these days. Extended use of these soaps may cause dryness, irritation, spotting, spots, and other skin issues. A number of factors, such as poor eating habits, lifestyle choices, stress, lack of sleep, and environmental pollutants, can result in cutaneous infections. The use of natural herbs is essential in the beauty industry to minimize side effects and enhance the therapeutic effects. India is home to an abundance of medicinal plants that can treat skin conditions and shield the body from pathogens. The majority of herbal soaps are handmade and manufactured entirely of organic components that are excellent for the skin and the environment. Certain herbs are effective at adding natural color to your goods.[2,3]

TYPES OF SOAP[4]
1. Natural/Herbal Soap
2. Liquid Soap
3. Moisturizing Soap
4. Anti-bacterial Soap
5. Chemical Free Soap
6. Foam Soap
7. Bar Soap
8. Body Soap

FORMULATION OF POLY HERBAL SOAP
The small pieces of the prepared basic glycerine soap were put into a pan and melted on a water bath at a temp. below 60 degree celcius Cestrum noctuenum, tulsi, turmeric extract were added after that all of the componants such as honey, aloe vera, ethanol, steric acid were combined together. The liquids was poured into the mold, which was then allowed to harden at room temp. and evaluated the various parameters of soap.[5]

MATERIALS AND METHODS

Ingredients	Biological Source	Chemical Constituents	Uses
Cestrum Nocturnum 	It is species of cestrum in theplant family Solanaceae. [5]	β-Phellandrene, α-phellandrene, cardioprotective, etc.[5]	Heart diseases& spams, hypotensive and diuretic.[5]
Tulsi 	It is fresh & dried leaves of cimum species like ocimum sanctum.[6]	Oleanolic acid, Rosmarinic acid, linalool&β carophyllene, eugenol,etc.[6]	fever, treats skin problem like acne.[6]
Aloevera 	Is dried latex ofleaves of it.[7]	vitamins, enzymes, minerals, sugars ,lignin, saponins, salicylic acid, wounds.[7]	skin problems ,anti-inflammatory, wounds, anticancer, anti-oxidants. [7]
Turmeric 	Turmeric consistof dried as well asfresh rhizomes of the plant curcuma longa.[8,9,10]	contains curcumin, dimethoxy curcumin etc.[8,9,10]	Anti-septic, inflammation, anxiety, kidney health, arthirits.[8,9,10]
Honey 	Honey is sugary substance deposited inhoney comb bythe bee Apis Mellifer.[11]	glucose35%, fructose45%, sucrose2%, formicacid, enzymes, gums, etc.[11]	sweetening agent, strengthens immunesystem, boosts yourmemory, antioxidant,used for wounds, etc.[11]
Rose oil 	Rose oil is obtained from thesepals and petalsof rose damascene through steam distillation.[12]	The volatile consistof mainly of 2-phenylethanllinalool, citronellol, geraniol, etc.[12]	Smoothens skin irritation, reduce skin redness,treat burns, etc.[12]
Ritha	Scientificallyknown as sapindussi-	Saponins, sugar, & mucilage.[6]	Reetha is widely usedin preparation like shampoo or

	mukorossi.[6]		soap.[6]
Sodium lauryl sulphates(SLS) 	-	-	Anionic emulsifier, as detergent in medicated shampoos, skin cleanser in topical application, tablet lubricant,wetting agent in dentifrices.[13]

1. MATERIALS AND METHODS

METHOD OF PREPRATION OF SOAP

Melt and Pour Soap

All handcrafted soap is technically considered "Glycerin Soap." Most commercial soap has all of the excess glycerin removed. Thus, glycerin is abundant in all homemade soap. Extra glycerin is typically added to clear soap to create a highly nourishing, moisturizing bar. Glycerin falls within the category of "humectant." The idea behind it is that if you wash your skin with glycerin soap, a small coating of glycerin will stay on your skin and draw moisture to it." Large blocks of clear soap foundation are available for purchase; these can be melted, colored, and scented before being poured into molds. Melt and Pour soap production is becoming more and more popular due to its simplicity of usage. This method includes all the elements of creating cold process soap, but it adds a few steps, like adding glycerin and sugar to enhance and suspend the soap's clarity and add alcohol for clarity.[14]

PHYTOCHEMICAL TEST FOR CESTRUM NOCTURNUM

Chemical constituents	Test	Ethanol extract
Alkaloid	Hagers test	++
Amino acid	Millons test	+
Flavonoids	Lead acetate	++
Tannins	Ferric chloride	++

PHYTOCHEMICAL TEST FOR TULSI

Chemical constituents	Test	Ethanol extract
Alkaloid	Dragendroff test	++
Amino acid	Millons test	+

[Moderate present++, Weakly present+.]

EVALUATION

1. organoleptic evaluation[15,16]

i. Colour: green
ii. Odour: orange
iii. Appearance: Good

2. Physical Evaluation

1. Foam Height.[7]

Dissolved 0.5 gm of soap in distilled water then With distilled water in 100 ml measuring cylinder make up the volume up to 50 ml. By giving 25 strokes the volume of foam height was measured.

2. pH.[17]

The pH of the prepared soap was assessed by touching a pH strip to the freshly formulated soap and jointly by dissolving 1 gram in 10 ml water with the help of a pH meter.

3. Foam retention test[18]

25ml of the 1%soapsolution was taken into a 100ml graduated measuring cylinder. The cylinder was covered with hand and shaken to 10 times The volume of foam at 1 min's interval to 4 mins was recorded.

4. Irritation of the skin test[19]

The herbal soap composition was subjected to skin irritancy test there is no irritancy or redness in the preparation the condition for a period of 24 hr.

5. Washing capability[19]

The herbal soap was put through a formulation test as well as the simplicity with which it couldbe washed with Water.

6. Microbial growth

Using agar plates the placed in to the incubator and are

incubated are at 37 c for 24 hr and compared with std.

7. Antimicrobial test[21]

There was various study conducted on antimicrobial activity of cestrumnocturnum and hence according to research paper by antimicrobial activity of cestrum nocturnum leaf.

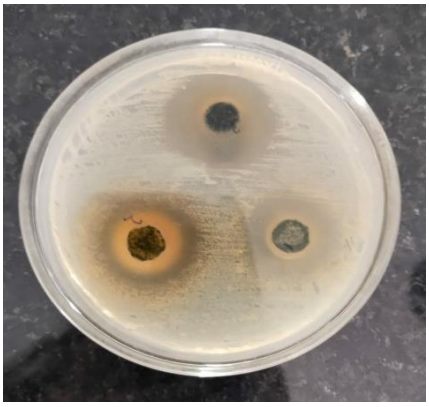

Fig: Antimicrobial test.

8. Moisture Content[20]

A sample of soap weighing 10g was weighed right away and noted as "wet weight of the sample." Using the appropriate drying equipment, this wet sample was dried to a constant weight at a temperature not to exceed 115 °C. After cooling, the sample was weighed once more to determine its "dry weight." The following equation was used to calculate the sample's moisture content. %Weight = A-B/B × 100

Where; %Weight = % of moisture in sample, A = weight of wet sample (gm), B = weight of drysample (gm).

3. RESULT

The organoleptic parameters of polyherbal soap such as colour, order, appearance as well as pH were performed. The formulation possesses a dark green colour, aromatic order as well as good and uniform appearance. Now the pH was found to be 7.4 which is desired pH other parameters like form height, form retention and irritancy test were also successfully performed.

Sr no	Physico chemical parameters	Herbal soap result
1	Appreance	Green
2	Odour	Pleasant smell
3	Texture	Solid and smooth
4	Foam height (cm)	4.2cm
5	pH	7.4
6	Foam retention	5 min
7	Moisture content	2.11%
8	Skin irritation test	No irritation

4. CONCLUSION

The plant Cestrum noctumum, Ocimumtenuiflorum,, and Aloe vera were extracted using ethanol and subjected to various evaluation test according to previous research the antimicrobial activity of Cestrum noctumum was studied. When examined for various tests, the created mixture produced positive findings. It has been established through the use of these soaps by a small number of volunteers that they do not irritate skin, proving that soap does not cause skin irritation. Additionally, the manufactured soap was standardized by assessing a number of physical and chemical characteristics, including pH appearance and odor, in which they demonstrated a suitable result.

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