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Herbal Luminescence: Evaluating Tan-Enhancing Ayurvedic Soap

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Abstract: Neem powder, turmeric powder, orange powder, vitamin E, rose water, rice flour, and soap base were used to prepare the skin-glowing soap. It was then assessed using a variety of evaluation parameters, including Skin irritation, pH, foam height retention, organoleptic properties, and stability at high temperatures We listed the types of soap, different ways to make soap, and advantages of skin-brightening soap. We also evaluated transparent skin-brightening D tan skin-shinning soap and prepared herbal soap, which has a nice look, better cleaning and foaming effect, no side effects, and many benefits for the skin on the face. Formulating and assessing an herbal D-tan soap for cosmetic use is the aim of this effort. The mixed dried powder exhibited acceptable flow properties, making it appropriate for use as soap. The powder's particle size was determined to be 22.3±2.25 µm. The benefits of using herbal cosmetics include their nontoxicity, ability to minimize allergic reactions, and several components with proven therapeutic use.

Keyword: Skin glowing, Anti-wrinkle, Skin-brightening.

INTRODUCTION

The exterior layer of the human body, the skin, serves as the initial line of protection against numerous medical conditions [1]. Because the skin interacts with the environment, it is constantly exposed to a variety of environmental stimuli. This makes skin injuries more likely. [2]. In an attempt to recover, severely damaged skin frequently forms scar tissue, which is frequently depigmented and discolored. Since ancient times, people have utilized plants to cure illnesses and infections in humans [3]. Plant-based active ingredients can be prepared as a gel, lotion, ointment, cream, soap, or as a crude or solvent extract [4, 5]. The use of phytoconstituents obtained from plant extracts has a promising future in the management of hyperpigmentation [6].

Ayurvedic writings mentioning plant-based medicines are becoming more and more popular in India these days as a result of their validity in comparison to contemporary therapies. One type of cosmetic used in modern times to keep and improve skin vibrancy is soap. But oftentimes, the chemical soaps that are available nowadays can irritate and dry out the skin [7]. It's interesting to note that the effectiveness of herbal-based soaps on cutaneous illnesses is driving up their popularity. It is also established that the plants listed under "varna herbs" in Ayurveda and their contemporary equivalent, tyrosinase inhibition, are related.

1.1ALOE VERA

Often known as Aloe vera Alkaloids, polyphenols, sugars, triterpenoids, glycosides, steroids, and saponins were detected in the initial phytochemical screening [8]. It is a member of the Liliaceae (Asphodelaceae) family.

1.1.1 PHARMACOLOGICAL ACTIVITIES

There have been reports of aloe vera gel's ability to shield skin against radiation harm. The precise function of aloe vera gel is unknown, however, once it is administered, the skin produces metallothionein, an antioxidant protein that scavenges hydroxyl radicals and keeps the skin's glutathione peroxidase and superoxide dismutase from being suppressed. It inhibits the generation and release of immunosuppressive cytokines derived from skin keratinocytes, including interleukin-10 (IL-10), hence averting UV-induced suppression of delayed-type hypersensitivity.

1.2NEEM

As a sacred gift from nature, neem is an omnipotent the tree that primarily grown on the subcontinent of India. Neem belongs to the Meliaceous family, which also includes mahogany. Today, neem is known by its botanical name, Azadirachta indica (A. indica) SarvaRoga Nivarini, which means "the cure of all illnesses." Its function as a miracle medication dates back to 4500 years ago.[9]

1.3 ORANGE

Oranges' high vitamin C content can aid in brightening skin tone and get rid of dark spots brought on by sun exposure. It shields the skin from the harm that free radicals can do. oxidative stress and skin hydration [10].

1.4 ROSE WATER

Rose water has several antibacterial qualities in addition to the health benefits of K, C, and B vitamins. It has an healthy dose of antioxidants as well.[11]

1.5 TURMERIC

Curcuma longa (Haridra) turmeric possesses anti-allergic and anti-inflammatory properties. It aids in wound healing and is the greatest blood purifier. It has the best blood purification effect and is therefore used to treat all diseases originating from blood impurities. Haridra revitalizes and rejuvenates skin, delaying the onset of age indications such as wrinkles.[12]

.5 RICE FLOUR1

Rice flour's high carbohydrate content will aid in the fight against acne-causing infections. It is protective, astringent, and eliminates dead skin.

1.6 VITAMIN E

Low levels of vitamin E in the skin can be treated with vitamin E. This vitamin keeps your organs healthy and shields your cells. As instructed, you can take these pills or capsules orally along with a glass of water. It might be beneficial to take this medication with food.

7 REETHA

The powerful moisturizing ability of soapnut preserves skin hydration, guards against skin drying out, and leaves skin looking smooth and glowing. Skin conditions like acne, eczema, and psoriasis are treated with potent antibacterial and anti-inflammatory qualities.

LITERATURE REVIEW:

1. Patil J. N. et al. (2023) In their research titled "Formulation and Evaluation of Camphor Aloe Soapnoted that a variety of chemical toxins and microorganisms found in the atmosphere can lead to chemical infections and skin damage. They also noted that cosmetics alone are insufficient to properly care for the skin and body.
2. Rashid N A et al., (2022) Clitoris ternate, Fabaceae family flowering vine plant, also called butterfly pea, has oblong, sharp leaves. According to reports, the antioxidant activity and potential of butterfly pea flowers as an ingredient in antioxidant soap have been evaluated. Many serious diseases have been linked to free radicals, including diabetes, cancer, and ailments of the heart and nervous system.
3. Patel A. et al., (2022) make herbal hygienic soap with an antibacterial ingredient and the cold process method in their paper "Formulation and Evaluation of Herbal Soap." Rose oil, lavender oil, coconut oil, and castor oil were used to make the herbal soap.
4. Chandira R M et al., (2022) Musk melon, olive oil, and soap base are the ingredients they use to formulate the soap in their paper, "Creating and Assessing Herbal Soap with Melt and Pour Method." Numerous epidermal dysfunctions, including eczema, psoriasis, and acne, can be treated with soap.
5. Govind A., et al., (2021) The plant used in the preparation of soap can soften the skin's outer layer, promote deeper penetration, get rid of acne, and encourage recovery and reconciliation in a short amount of time, according to an article titled "Making and Assessing Herbal Soap with Natural Ingredients and Easy Techniques Match."
6. Attaullah A et al., (2021) create soap for antibacterial action in their article titled "Formulation of herbal soap against acne-causing bacteria."
7. Munde Govind Anant et al., (2021) The manufacture and evaluation of herbal soap utilizing natural materials by simple matched is reported. Neem leaf, aloe vera, and Tulsi were used in the production of the herbal soap. Ayurvedic cosmetics are highly beneficial and do not have any negative effects. Herbal cosmetics are another name for Ayurvedic cosmetics.
8. Vasanthan A et al., (2021) Herbal cosmetics play a significant role in their work " Acalypha indica is used in the formulation and assessment of antifungal soap" because of their good activity and lack of adverse effects. The antifungal herb Acalypha indica is useful in treating fungal-related skin conditions.

AIM & OBJECTIVE

1. Formulation of ayurvedic D tan skin glowing soap.
2. Evaluation of herbal soap.
3. The major goal was to create medicinal herbal soap that was rich in antioxidants, anti-bacterial, and anti-pimple D tan qualities.
4. Create an herbal soap with the fewest possible adverse effects.
5. Making herbal soap is mostly done using natural components rather than chemicals.
6. The purpose of this work is to formulate and assess an herbal soap using rice flour, vitamin E, aloe vera, neem powder, orange powder, rose water, and turmeric powder.
7. By using instruments

- Hot air oven
- Hot water bath
- Melting heater

PLAN OF WORK

The following methodical strategy has been designed to carry out the dissertation work.

***PHARMACOGENETIC STUDIES:**

- Gathering, verifying, preparing, and preserving ingredients.
- Tiny characters.
- Large-scale characters.

*** STANDARDIZATION OF PLANT MATERIAL:**

- Calculating the extractive values.

*** PHYTOCHEMICAL INVESTIGATIONS:**

- Formulation of herbal soap
- Test of effectiveness for herbal soap
- Physical characteristics:
- PH and proportion of free alkali
- Saponification
- Anti-bacterial test
- Foam height
- Foam retention
- Moisture content
- Cleansing ability
- Skin irritation

PLANT PROFILE

- **ALOE VERA**

Synonym: Aloe
Family: Liliaceae.
Geographical source: Curacao, Barbados.
Botanical name: Aloe barbadense miller.
Kingdom: Plantae
Class: Liliopsid
Order: Asparagus's
Family: Asphodelaceae
Genus: Aloe
Locality: In the village
Habit: Spreading via stolons

- **NEEM**

Botanical name: Magnoliophyte (Azadirachta indica A)
Kingdom: PlanteMagnoliopsida classRurales are in order.
Subclass: Retinae
Family: Meliaceae
Genus: Azadirachta
Species: Indica
Scientific name: Azadirachta indica
Locality: In the village

- **ORANGE**

Kingdom: Plante
Division: Magnoliophyte
Class: Dicotyledons
Rosidae is the order.Rutaceae
familyGroup: AurantoideaeCitrus
genusGenus: Sinensis
Sub genera: Papeda
Locality: In the village

- **ROSE**

Kingdom: Plante
Division: Tracheophytes
Class: Eudicots
Order: Rosales; AngiospermsRosaceae
Family: Rosoideae
Subfamily: Rosa's genus
Species: Canina

Locality: In the village
Tribe: Roseae

- **TURMERIC**

Kingdom: Plantae;
Clade: Angiosperms;
Clade: TracheophytesGroup: MonocotsCommelinid
Clade: Zingiber ales, in
Order: Zingiberoside
Family: Curcuma,
Genus: C. longa is the species.Name
binomial: Curcuma longa
Locality: In the village

- **RICE**

Kingdom: Plantae - Plants
Subkingdom: Tracheobionta - Vascular plants
Super division: Spermatophyta - Seed plants
Division: Magnoliophyta - Flowering plants
Class: Liliopsida - Monocotyledons
Subclass: Commelinidae
Order: Cyperales
Family: Poaceae Barnhart - Grass family
Genus: Oryza L. - riceP
Species: Oryza sativa L. – rice

VERNACULAR NAME

- **ALOE**

 Hindi: Gwar path
 Sanskrit: Ghrit Kumari
 Marathi: Korphad

- **NEEM**

 Bengali: Neem
 English: Indian Lilac
 Margosa: Margosa tree
 Gujarati: Limba
 Hindi: Neem
 Irula: Veeppa maram
 Kannada: Bevo/ Kirubevu
 Manipuri: Neem
 Marathi: Nimbay
 Telugu : □□□□ Vepa
 Urdu: Neem

- **ORANGE**

 Bengali: Kamla, musambi
 Oriya: naranga
 Tamil: nagarukam
 Kannada: kittalu
 Malayalam: nagaranga
 Marathi: mosambi
 Punjabi: Malta
 Gujarati: Santra, naringin.

- **ROSE**

 English: Rose
 Hindi: Gulaab
 Marathi: Gulab
 Urdu: Rose
 Punjabi: Gulaba
 Bangali: Golapa

- **TURMERIC**

 English: Turmeric powder
 Tamil: Manjalpodi
 Malayalam: Manjapodi
 Telugu: Pasupu
 Hindi: Haldi
 Bengali: Halood
 Gujrati: Hardhar
 Marathi: Halad
 Urdu: Haladi
 Kashmiri: Lader

- **RICE**

 English: Rice
 Tamil: Arici
 Hindi: Chaaval
 Bengali: Paddy, Cala
 Marathi: Tandul
 Urdu: Chawal
 Panjabi: Caula

- **REETHA**

 English: soapberry
 Tamil: □□□□□□□
 Hindi: reetha
 Bengali: রিঠা
 Marathi: reetha
 Urdu: ریٹھا
 Panjabi: □□□□ (ritha)

USES

 evens out the tone of your skin and brightens your complexion.
 They aid in preventing skin dryness.
 Reetha's natural conditioning qualities aid in hydrating your skin.
 Since soap doesn't harm skin, people with sensitive skin can use products manufactured from them.
 Also, it is a forming agent.

- **ALOE VERA**

1. relieves sunburn.
2. Promotes skin hydration.
3. Promotes wound healing.
4. Prevents aging skin.
5. Decreases acne and infections.
6. Softens facial imperfections.
7. It can aid in the fight against acne.
8. It can aid in the fading of acne scars and dark spots.
9. It lessens dark circles and puffiness.
10. It might lessen aging symptoms.
11. Most persons with sensitive skin can benefit from it.

- **NEEM**

1. Effective against septic sores
2. Infected burns
3. Range of skin conditions.

- **ORANGE**

1. Powdered orange peel brightens the skin.
2. Citrus acid found in orange peel powder
3. Aids in the removal of pigmentation
4. Remove dark spots and acne scars.

- **ROSE**

1. Reduces Skin Bruises.
2. Rose water's abundance of anti-inflammatory and antioxidant qualities is one of its main advantages.
3. Cuts Down on the Symptoms of Redness
4. Fights Infections
5. Hydrates Skin and Has Anti-Aging Properties.

- **TURMERIC**

1. Aids in skin wound healing.
2. Aids in treating certain skin diseases.
3. Helps to lessen imperfections.
4. Aids in skin scar fading.
5. Highlights the glow.
6. Anti-aging characteristics.
7. Hydrates parched skin.

- **RICE FLOUR**

1. enhances the complexion of the skin.
2. reduces oiliness.
3. controls the synthesis of sebum.
4. purifies and cleanses the skin.
5. heals and soothes the skin.
6. cleanses clogged pores on the face.
7. hydrates and nourishes the skin's outer layer.

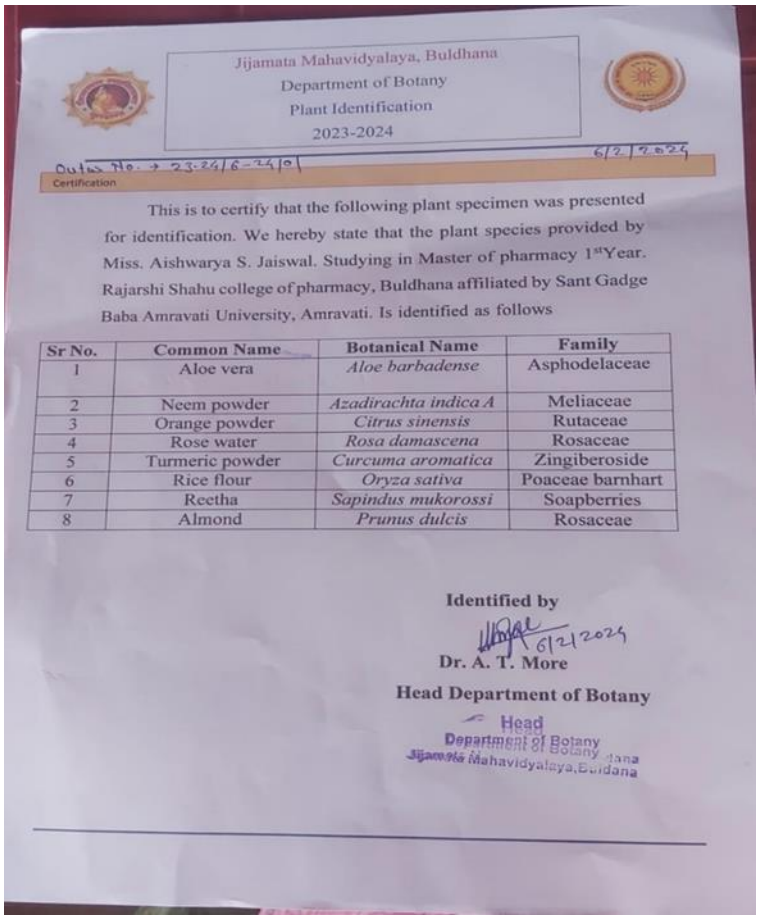
- **VITAMIN E**

1. Strengthens and contributes to the health of the skin and eyes.
2. The defense mechanism
3. The immune system's inherent protection against illness and infection.

 PHARMACOGENETIC STUDIES:

Gathering, verifying, preparing, and preserving ingredients.

For the Soap materials, collection, authentication, processing, and storage were completed



Jijamata Mahavidyalaya, Buldhana
Department of Botany
Plant Identification
2023-2024

Outward No. → 23-24/6-24/01 6/2/2024

Certification

This is to certify that the following plant specimen was presented for identification. We hereby state that the plant species provided by Miss. Aishwarya S. Jaiswal. Studying in Master of pharmacy 1st Year. Rajarshi Shahu college of pharmacy, Buldhana affiliated by Sant Gadge Baba Amravati University, Amravati. Is identified as follows

Sr No.	Common Name	Botanical Name	Family
1	Aloe vera	*Aloe barbadense*	Asphodelaceae
2	Neem powder	*Azadirachta indica A*	Meliaceae
3	Orange powder	*Citrus sinensis*	Rutaceae
4	Rose water	*Rosa damascena*	Rosaceae
5	Turmeric powder	*Curcuma aromatica*	Zingiberoside
6	Rice flour	*Oryza sativa*	Poaceae barnhart
7	Reetha	*Sapindus mukorossi*	Soapberries
8	Almond	*Prunus dulcis*	Rosaceae

Identified by
6/2/2024
Dr. A. T. More
Head Department of Botany
Head
Department of Botany
Jijamata Mahavidyalaya, Buldana

Collection: In January 2024, a plant specimen was obtained from Ajispur, in the district of Buldhana, Maharashtra, India.

Tiny characters.

a. ALOE VERA

•Leaves

Leaves: Thick & Fleshy

Color: Green to grey-green [13]

•Flowers

Produce in summer

Colour: Orange

Each flower is pendulous tubular corolla (2-3cm) [13][14]

•Root

Symbiosis Provides nutrients & minerals from soil [15]

B. NEEM

•Tree

Height: 15-20 metres

Evergreen

Diameter: 20-25 meters

Pinnate leaves: 20-40 cm long

Color: dark green

Leaflets: 3-8cm

•Flower

Flower: 250 to 300

Bisexual flowers

•Fruit

Smooth

Shape: oval

Ripe: 14-28mm

Test: bitter-sweet

Color: yellowish-white

•Seed

Brown seed coat [16]

c.Orange

Branch: rounded crown

Leaves: oval, alternately arranged

Height: 6-15 metre

Lifespan: 30 years

Fruit color: green-yellow

Seed: pulpy flesh & several

Test: sweet, sour

Odor: pungent

d.Rose

Leaves: 3 to 9 leaflets

Stem: bristles

Habit: climbing or trailing shrubs

Size: usually large

Shape: Showy

Color: yellow, red, pink, orange, white, multicolor etc

e.Turmeric

Type: Rhizome (thick & ringed)

Leaves: Oblong

Color of leaves: Dark green

Flower: Yellow, white

Test: Bitter, warm

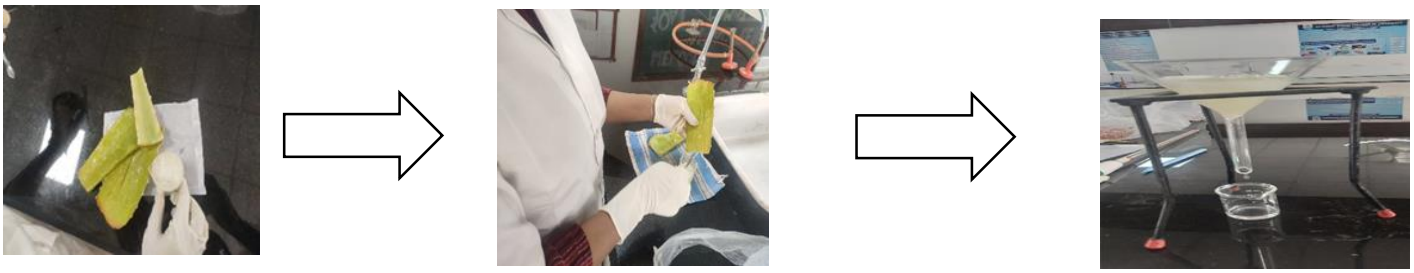
Rhizome: Brown in colour, Reddish-yellow, Orange-brown.

STANDARDIZATION OF PLANT MATERIAL:

Calculating the extractive values.

•Extraction of Aloe vera

Aloe vera leaf, please. using distilled water for washing. cutting off the bottoms and tips. filleting exudate and rind. extraction of pulp. cleansing. Filtration via vacuuvm. The pure gel was taken out



•Extraction of Neem

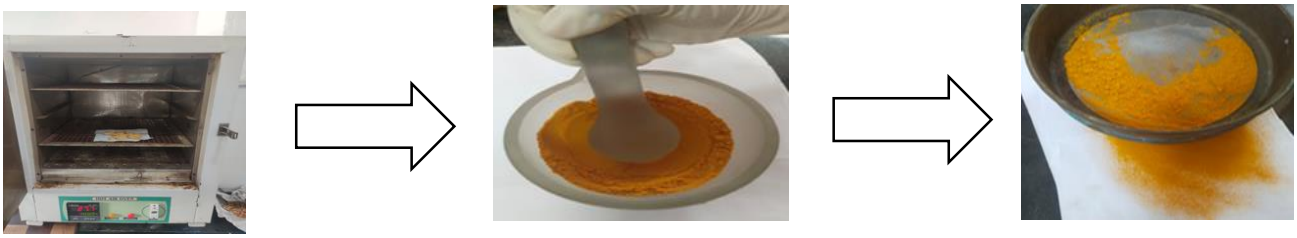
Scoop up neem leaves. Use only distilled water to wash. Leaf drying at 100 0C in a hot air oven until completely dry. Remove the leaves, then use trendy and pastel colors to decorate. Neem powder was removed after the powder was triturate and passed through the soave number 100. [18]

•Extraction of Rosewater

Consider the rose Patels. Use distilled water to wash. To lessen the extra water, dry that. Next, consume 50 milliliters of purified water. Patels that have been covered in aluminum foil. Allow the color extract in water to sit in that beaker of hot, molten water for thirty to forty minutes. Then take the beaker out of the device and let it cool. Following the collation of that filter using a funnel and Wathman filter paper. And rosewater was taken out. [20]

•Extraction of Turmeric powder

Consider taking raw turmeric. In the hot air oven, that was dry. With the aid of a mortar and pestle, they can triturate the turmeric once it has dried. Turmeric powder was then removed while the powder was going through the 100- number save. [19]



•Extraction of Orange peel powder

Peel the orange, if you would. The peel was sliced thinly and dried in a hot air oven. Orange peel powder can be extracted after the peel has been dyed and then triturated using a modern pestle and mortar. The powder was then passed through a filter, number 100, and then extracted.

•Extraction of Vitamin E from almond

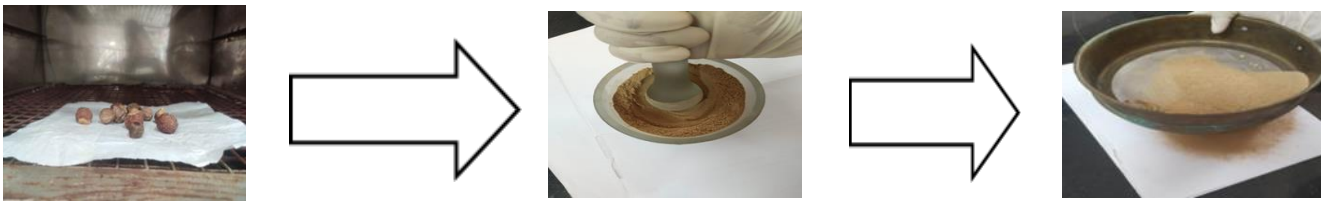
Place the 35 grams of almond roast on the heated plate for 10 to fifteen minutes. Next, the heated almond is triturated using a modern pestle and mortar to extract the oil from the almond. Next, use a sterile, clean cotton handkerchief to assist filter the oil. After that, a glass bottle is filled.

•Extraction of soap base

Put the bee wax on the Melton and melt it. After the wax has melted for ten to twenty minutes, add all of the components.

•Extraction of Retha

Sapindus mukorossi was taken 50gm and dried at 800c for three days. Seeds were removed from dried Sapindus mukorossi. The extraction process was done from the material solvent that was not used in the extraction process the material obtained by removing seeds is triturate in a motor and pester for nearly 20 minutes till it gets finely distributed with nearly uniform size. The powder obtained is passed through 100 no. sieve and got uniform particle size. Uniformed-sized powder was used for preparation.



✪ PHYTOCHEMICAL INVESTIGATIONS:

FORMULATION OF HERBAL SOAP

1. This formulation is used for normal skin only

Sr. No.	Name of Ingredients	Scientific Name	Quantity taken
1	**Soap base**	Cara alba	50 gm
2	**Aloe vera**	Aloe barbadense miller	4.3 gm
3	**Neem powder**	Azadirachta indica A	4.3 gm
4	**Orange powder**	Citrus sinensis	4.3 gm
5	**Rose water**	Rosa Damascena	2 ml
6	**Turmeric powder**	Curcuma aromatic	1.3gm
7	**Rice flour**	Oryza sativa	4.3gm
8	**Vitamin E**	Vitamin E	4.3ml
9	**Ritha**	Sapindus mukorossi	9.6 gm

2. This formulation is used for oily skin only

Sr. No.	Name of Ingredients	Scientific Name	Quantity taken
1	**Soap base**	Cara alba	50gm
2	**Aloe vera**	Aloe barbadense miller	4.3gm
3	**Neem powder**	Azadirachta indica A	4.3gm
4	**Orange powder**	Citrus sinensis	4.3gm
5	**Rose water**	Rosa Damascena	2ml
6	**Turmeric powder**	Curcuma aromatic	1.3gm
7	**Rice flour**	Oryza sativa	5.3gm
8	**Vitamin E**	Vitamin E	3.3ml
9	**Ritha**	Sapindus mukorossi	9.6gm

3. This formulation is used for the dry skin only.

Sr. No.	Name of Ingredients	Scientific Name	Quantity taken
1	**Soap base**	Cara alba	50gm
2	**Aloe vera**	Aloe barbadense miller	5.3gm
3	**Neem powder**	Azadirachta indica A	4.3gm
4	**Orange powder**	Citrus sinensis	4.3gm
5	**Rose water**	Rosa Damascena	2ml
6	**Turmeric powder**	Curcuma aromatic a	1.3gm
7	**Rice flour**	Oryza sativa	2.3gm
8	**Vitamin E**	Vitamin E	5.3gm
9	**Ritha**	Sapindus mukorossi	9.6gm

Fig.1. For normal skin

fig.2. For oily skin

fig. 3. For dry skin

PREPARATION OF SOAP:

1. Place a tiny amount of pure soap base in a beaker.
2. Melt them at 50 degrees for 20 to 25 minutes.
3. Next, incorporate that aloe vera gel.
4. Include rice flour and turmeric powder.
5. Next, incorporate neem and orange peel powder.
6. Next, incorporate vitamin E, rose water, and Retha powder.
7. The mixture should then be boiled for 5 minutes at 10-20 0 C.
8. After that pure in mold and freeze that 1-2 hr.

Fig. collage of photos of preparation steps

PHYSICAL CHARACTERISTICS:

pH

In addition to dissolving 1 using a g in 10 ml of water digital pH meter, A pH strip was used to measure the created soap's pH by contacting it with the freshly made soap. [21]

proportion of free alkali

150 ml of distilled water was then added to the beaker containing 10g of dried soap. The soap was heated at reflux for 30 to 40 minutes in a water bath in order to dissolve it. This mixture was allowed to cool before being moved, together with the washings, to a 250 ml conical flask. Distilled water was then added to the flask. Ten milliliters of the soap solution in the titration flask were mixed with two drops of the phenolphthalein indicator. After that, the solution was titrated against 0.1M HCl until it lost its color.

Saponification

2 gm of material refluxed for 30 minutes with 25 milliliters of 0.5 N alcoholic KOH. After that, 1 milliliter of phenolphthalein was added, and the mixture was quickly titrated with 0.5 N HCL. The reading was recorded as a repeat of the procedure and analyzed. 25 milliliters of distilled water were used to dissolve a sample of 0.5 grams of soap. It was then placed into a 100 ml measuring cylinder, and water was added to raise the volume to 50 ml. Following 25 strokes, the foam height was measured above the aqueous volume and the aqueous volume was measured up to 50 ml. [22]

Foam height

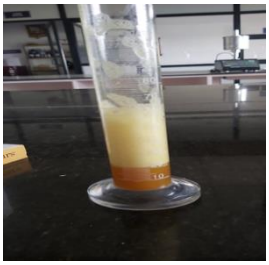


Fig 1

fig 2

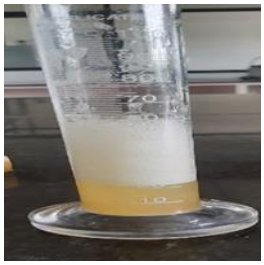


fig 3

Stability of foam

In addition to the foamability test, the mixture was left undisturbed for 30 minutes while using the same quantity of soap sample and distilled water. Thirty minutes later, the foam height was measured above the water volume.

Foam retention

In a 100 ml graduated measuring cylinder, 25 ml of the 1% soap solution was added. Ten shakes of the cylinder were performed with hands covered. The amount of foam was measured every minute for four minutes. [22]

Moisture content

For one hour, 10 grams of the material were cooked to between 100 and 105 degrees Celsius in a hot air oven. The genuine weight of the tarred China dish was then subtracted from the sample and the dish's combined weight. The material's weight was noted, and the formula below illustrates how to get the percentage of moisture content that is present in it.

Moisture content is equal to (weight difference over beginning weight) x 100.

Cleansing ability

The approach is built on the ideas that Schrader developed, albeit with significant changes. We imitated "dirt" using an ointment based on fat, just like in Schrader's technique. The hand under examination was submerged in a rotating soap bath for five minutes to complete the washing procedure. By comparing the submeter readings before and after the washing operation, the ability of different soaps to remove the "dirt" was evaluated. A quantitative estimate of the percentage of "dirt" (ointment) that washed out during the process was given by the difference between the two readings. [24]

Skin irritation

It is done by putting soap on the skin and leaving it on for ten minutes. It is regarded as a non-irritating product if there is no irritation. [23]

✪ RESULT AND DISCUSSION

❖ pH

Parameter	F1	F2	F3	Standard value
pH	9.7	9.8	9.8	9.7
temperature	25^0c	25^0c	25^0c	25^0c

Free alkali

The amount of alkali-free to counteract and prevent the soap from being oily is known as the free caustic alkali. According to the current investigation, the free caustic alkali ranged from 0.14% for soaps for dry skin to 0.99% for soaps for oily skin. For regular soaps, it was determined to be between 0.62% and 0.14%. Caustic alkali in excess produces irritation on the skin.

Saponification

❖ When the dissolved liquid cools, the saponification process produces solid soap. When a solid soap precipitate forms and there are no longer any fats or oils in the solution, the saponification reaction is finished. Precipitate has been found for regular soap 4 mg, oily skin soap 7 mg, and dry skin soap 5.5 mg.

❖ Foam height

Parameter	F1	F2	F3
Foam height	7 cm	6.5 cm	6 cm

❖ Foam stability

Parameter	F1	F2	F3
Foam stability	8 min	7 min	6.5 min

Foam retention

The term "foam retention time" describes how long the soap's foam lasts. After going through the same procedure once more, the foam internal was measured for around seven minutes. The foam retention times of the three soap formulations were similar. It was found that the herbal oil skin soap has a 10-minute foam retention time.

Moisture content

A test for soap's moisture content determines how much water is in the solid soap after it has dried at 100 degrees Celsius for 30 to 40 minutes.

Moisture content is equal to (weight difference over beginning weight) x 100.

Soap bars for oily skin have a moisture content of 14%. Weight reductions were made until a stable weight was achieved.10 grams of material boiled down to 8.6 grams.

The difference is now 1.4. 14% of the formula's moisture content is found after entering this figure. for normal & dry skin soap After heating, the material weighed 15 grams down to 13 grams. 13% of the formula's moisture content is after the valve is installed.

Cleansing ability

An experiment to assess washing ability involved applying a crimson sticky substance to the skin. It had then been cleaned. All sticky substances had been removed, as seen in the photos, and the test had gone wel

Skin irritation

A test for skin irritation has been conducted in which soap is applied to the skin thoroughly enough to create a foam that clings to the skin for fifteen minutes before being wiped off. There were no signs of skin sensitivity from the soap.

ADVANTAGES OF HERBAL SOAP

•Natural ingredients

•Gentle on the skin

•Healing properties

•Nutrient-rich

•Eco-friendly

•therapeutic properties

DISADVANTAGES OF HERBAL SOAP

•Limited Shelf Life

•Higher Cost

•Variability

•Limited Availability

CONCLUSION

• The formulation contains aloe gel, orange peel powder, neem powder, rice powder, rose water, turmeric powder, and vitamin E. Positive results were obtained when the prepared mixture was tested for different purposes. • The skin is significantly improved by herbal soaps, becoming supple, silky, and easily movable.

Conversely, chemical soaps are loaded with toxins that are bad for your health and skin.

• Herbal soaps are the best option for improved skin care and the best possible health results because of their many advantages. Herbal soap has several therapeutic benefits, including aromatherapy, medicinal qualities, and therapeutic value. It also soothes and renews skin.

• The produced compound performed well in tests conducted for various purposes.

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