

Formulation & Evaluation of Herbal Face Pack

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Abstract

This project's goal is to create and test a herbal cosmetic face pack for all skin types utilising natural components in varied doses.

Three different mixtures that include mint, fenugreek, green tea, Multani mitti, white tea, Sandalwood and orange peel from the local market were prepared and given the designations F1, F2, and F3, respectively. They were then sieved through number 44, geometrically mixed, and evaluated for their organoleptic, physiochemical, general powder, and chemical properties. The combined dry powder exhibited satisfactory flow characteristics, making it appropriate for a face pack.

INTRODUCTION

Everyone aspires to have beautiful skin that is fair. Acne, black heads, pimples, and dark circles are now very frequent among young people and those who have the condition. According to Ayurveda, blood impurities are typically the cause of skin issues. Skin related disorders are brought on by toxins that have built up in the blood due to poor diet and lifestyle choices. In Ayurveda, various herbs and medications are specified for purifying the blood. Blood purifier herbs include Manjistha, Lodha, Chandana, Haridra, etc.

In ayurveda, "mukha lepa" refers to the herbal paste used to cure acne, pimples, scars, markings, and pigmentation on the face.

"Mukha lepana" refers to the application of this herbal concoction to the face. As a facial, this cosmetic therapy is well-liked. "Face pack" is used for applying makeup to the face. A good herbal face mask must give the skin the nutrients it needs. To give the necessary nutrients, it must pierce the subcutaneous tissues.

Different skin types require various herbal face packs. Women who have wrinkles, dark bags under their eyes, pimples, or acne can get rid of them with the aid of the ayurvedic face packs. The fairness and smoothness of the skin are improved by herbal face packs. We can use herbal face packs to their fullest potential by using them in accordance with the type of skin we have. These face packs improve skin radiance and are the greatest ayurvedic remedy for boosting fairness. One of the most traditional and attractive ways to cleanse the skin is using face packs. Ayurveda describes a variety of face packs with nourishing, healing, cleansing, astringent, and antiseptic effects. Face packs can be made at home using common ingredients found in the kitchen and house. Ayurveda describes a variety of face packs with nourishing, healing, cleansing, astringent, and antiseptic effects. Face packs are easy to make at home with common household and kitchen ingredients.

Herbal face packs are more affordable and offer no negative effects in the quest for naturally pale skin. Herbs have been used for management, cleaning, and beauty since the beginning of time. Cosmetics are described as items intended to enhance, clean, promote attractiveness, or otherwise change one's look (Rani and Hiremanth, 2002). Smooth, vibrant, and silky skin are made possible by homemade natural face packs and masks. "Mukha lepa" is the name for the herbal paste used to cure acne, pimples, scars, markings, and pigmentation on the face in ayurveda. "Mukha lepana" refers to the application of this herbal concoction to the face as a facial, this cosmetic therapy is well liked. The fine powder that, "Face pack" is used for applying makeup to the face. A good herbal face mask must give the skin the nutrients it needs. To give the necessary nutrients, it must pierce the subcutaneous tissues. Different herbal face packs are required for different skin types

Women can get rid of wrinkles, dark circles, pimples, and acne by using the ayurvedic face packs. Herbal face masks improve skin's radiance and suppleness. By applying herbal face packs in accordance with our skin type, we can maximise their benefits. The greatest ayurvedic remedy to improve fairness, these face packs make the skin glow. One of the oldest and most elegant ways to cleanse the skin is with face packs.

In Ayurveda, a variety of face packs are described. These face packs have nourishing, healing, cleaning, astringent, and antiseptic properties. With common ingredients found in the kitchen and house, we may make face packs at home. For gaining fair skin naturally, herbal face packs are more affordable and have no side effects. Herbs have been used for management, cleaning, and beauty since the beginning of time. The products used for washing, beautifying, and other functions are considered cosmetics. The act of improving, enhancing, or changing one's look (Rani and Hiremanth, 2002). (1)

Smooth, vibrant, and silky skin are made possible by homemade natural face packs and masks. "Mukha lepa" is the name for the herbal paste used to cure acne, pimples, scars, markings, and pigmentation on the face in ayurveda. "Mukha lepana" refers to the application of an herbal facial. Nowadays, this treatment is commonly

A face pack is a smooth powder that is applied to the face. A good herbal face pack should penetrate the subcutaneous tissue and provide the skin with the nutrients it needs to provide the necessary nutrition. Different herbal face packs are required for different skin types. Ayurvedic face packs are used to lighten dark spots, acne, and wrinkles, Dark circles.

They also improve the skin's fairness and suppleness (Mithal and Saha, 2004). Certain essential vitamins that are necessary for the health and radiance of our skin are present in the natural face packs.

These compounds demonstrate numerous benefits for our skin as well. Natural Facial Packs are easier to use and less complicated.

They assist us in caring for our skin and demonstrate its value by promoting blood flow via the face's veins. The effects of the facial packs are typically transient, and for a consistent glow, use them two to three times each week.

Ayurveda suggests using face packs to assist ladies get rid of wrinkles, dark bags, pimples, and acne. The fairness and smoothness of the skin are improved by herbal face packs. By applying herbal face packs in accordance with the needs of our skin, we may maximise their advantages. The greatest ayurvedic treatment to promote fairness is ayurvedic face packs, which make the skin glow. Face packs are useful for treating,

promoting, and preventing skin issues. The following are the main, essential herbs used to promote skin fairness. (1,2,3,16)

Advantages using a Face Pack

1. Feeds the skin. Essential fruit face packs are available. vitamins for the skin.
2. Depending on its herbal ingredients, aids in reducing acne, pimples, scars, and marks.
3. Face packs typically remove skin's dead cells.
4. The skin is soothed and relaxed by these face masks.
5. They aid in quickly restoring the skin's lost radiance and glow.
6. Regular use of natural face masks improves skin texture and complexion while giving skin a glow.
7. The wise application of face packs can effectively counteract the negative effects of pollution and harsh environments.
8. They aid in preventing early skin ageing(2)

Profile of Herbal Ingredients

- Cinnamon



- **Synonym:** Cinnamomum verum
- **Family:** Lauraceae
- **Species:** Cinnamomum
- **Constituents in motion:**

Cinnamon is made up of several resinous substances, like as Several essential oils, cinnamaldehyde, cinnamate, and cinnamic acid.

Due to the presence, the flavour and smell are spicy. of Cinnamaldehyde and take place as a result of oxygen absorption. The colour of cinnamon darkens with age, enhancing the resinous flavour.

- **compounds.**

different cinnamon physiochemical characteristics.

Numerous essential oils, including transcinnamaldehyde, cinnamyl acetate, eugenol, l-boreol, caryophyllene oxide, caryophyllene, l-boryl acetate, and nerolidol, are present.

There have been reports of 7. -Cubebene, -Terpineol, Terpinolene, and -Thujene.

- **Uses:-**

- Cinnamon contains antibacterial qualities and aids in the treatment of acne.
- Cinnamon is a potent antioxidant that delays the onset of ageing.
- Cinnamon is an anti-inflammatory. (3)

- **Orange peel**



- **Synonym:** Citrus sinensis (sweet orange) Bitter orange, Citrus aurantium.
- **Family :** Rutaceae
- **Genus :** Citrus
- **Active components include:** Limonene (90), Citral (4), Vitamin C, Pectin, Hesperidine, Aurantimaricin, Aurantimaric acid, Octanal (39), Decanal (42), Monoterpene (91) and at least 2.5% Volatile Oil.
- **Uses**
 - Prevents skin damage from free radicals.
 - Treats flaky, dry, and irritated skin.
 - Rehydrates skin that needs it.
 - replenishes moisture.
 - Stops oxidative stress in skin cells for healthy, young skin.
 - Supports the renewal of tattered cells.
 - As a skin whitening agent, it works.
 - Eliminates tan.

- Full of anti-aging qualities.
- Enhances the shine of healthy skin (8)
- **Ritha**
- Ritha: Indian soapberry



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- **Synonym:** Sapindus mukorossi the Sapindaceae
- **family:** Sapinduis a genus.
- **Constituents that are active:** Hederagenin 3-O-Larabinopyranosyl Hederagenin 3-O-Larabinopyranosyl (21) Lrhamnopyranosyl (3 1)-D-xylopyranosyl (4 1) glucopyranoside - α -Lrhamnopyranosyl (3 \rightarrow 1)- β -D xylopyranosyl, 2,8 arabinopyranosyl (2 \rightarrow 1) α rhamnopyranosyl (2 \rightarrow 1) xylopyranosyl (4 \rightarrow 1) glucopyranosyl [(6 \rightarrow 1) rhamnopyranosyl] (2 \rightarrow 1) glucopyranoside Ritha contains saponins, which are good ingredients with excellent cleansing properties and are used to make soap and face washes.

Ritha and Besan flour mixed together in water are applied to all areas of the skin to enhance the radiance and nourishment of the skin.

Ritha's ideal moisturising qualities keep the skin hydrated and stop it from drying out too much, which further contributes to the skin's radiant appearance.

Ritha fruit possesses potent anti-bacterial and anti-inflammatory characteristics that aid in the treatment of skin conditions like psoriasis, acne, and eczema (9)

- **Nutmeg :**



Synonym: - Myristica fragrans

Family: - Myristicaceae

Myristica fragrans, sometimes known as nutmeg, belongs to the Myristicaceae family of plants.

Species: Myristica (7)

- **Nutmeg's active ingredients**

include 5 to 15% volatile oil, lignin, stearin, starch, gum, colouring agents, and 0.08% acid. Clemicine, Myristicin, Geraniol, Borneol, Pinene, Camphene, and Dipentene are all present in volatile oil. It also has trace amounts of isoeugenol, p-cymene, eugenol, and safrol.

- **Uses:**

- It lightens the skin's pigment.
- Due to its mild abrasiveness, nutmeg is an excellent skin exfoliant.
- Because of its anti-oxidant and anti-aging qualities, nutmeg treats oily skin while also making skin soft and smooth.
- Hence, it encourages the development of youthful skin.

- **METHOD OF Production**

➤ **FORMULATION OF HERBAL FACE PACK**

Step 1: Using digital scales, all the necessary herbal powders for the face pack preparation were precisely weighed separately on a balance.

Table 1 lists the quantity and components.

Ingredients for a herbal face pack are listed in Table 1.

Sr.no	Powder Form	Quantity
1	Cinnamon	1g
2	Orange peel	2g
3	Ritha	5g
4	Nutmeg	2.48g
5	Rose water	Q.S

- Step 2 involved transferring the herbal medications, such as cinnamon, orange peel, and neem, to a mortar and pestle and pulverising them.
- Step 3: To create a consistent, fine combination, herbal medications including Ritha, Bilva, and Nutmeg were triturated in a separate mortar and pestle.
- Step 4: To create a homogeneous medicine powder for a face pack, a previously created mixture of herbal powders was added to a mixture of fine powders and triturated.
- Step 5: Sieve No. 44 was used to filter the particles.
- Step 6: The powdered face mask was packaged.(10)

EVALUATION METHOD

❖ ORGANOLEPTIC EVALUATION:

- The organoleptic characteristics, which were evaluated manually for their physical qualities, include its appearance, colour, odour, texture, grittiness, and washability.

❖ PHYSICOCHEMICAL EVALUATION:

- Physical and chemical parameters, such as moisture content, extractive values, pH, and ash values, were identified.

• Determining moisture content

The amount of moisture in plant drugs is crucial because insufficient drying could result in the active ingredients losing some of their potency due to enzymatic deterioration. Loss on drying was used to calculate moisture content (LOD).

Weigh accurately of 3gms of the powder medicine should be weighed before being placed in a petri dish and heated to between 100 and 108 degrees Celsius. It aids in judging the product's purity and overall quality.

- **Determination of extractive value:** Additionally, it provides information about the nature of the chemical components. Less extractive value suggests the addition of exhausted material, adulteration, improper drying or storing techniques, or formulating.

- **Extractive value that is water soluble**

5gm of a precisely weighed sample should be macerated in 100ml of chloroform water for 24 hours in a stoppered flask. Shake often for the first six hours. Filter quickly through filter paper into a 50 ml cylinder, and then dry off 25 ml of the aqueous extract in a shallow dish with a flat bottom. Dry the residue thoroughly in an oven at 105 degrees before weighing after evaporating to dryness on a water bath. In a desiccator, keep it. To make the extract weight consistent, Using the airdried medication as a reference, get the percent weight-to-weight of the water soluble extractive value.

- **Soluble extractive value in alcohol:**

5 gm of a sample that has been precisely weighed and 100ml of 90% alcohol should be macerated for 24 hours in a 100ml stoppered flask. Shake often for the first six hours.

In a 50 ml cylinder, quickly filter through filter paper and collect.25 ml of alcoholic extract should be filtered and evaporated to dryness in a shallow flat-bottomed dish.

Completely dry the leftover material at 105° and weigh after evaporating to dryness on a water bath.

In a desiccator, keep it. Dry the extract to a consistent weight before figuring out the percentage of the drug's airdried weight that is soluble in alcohol.

- **Calculation of pH**

It is a measurement of the product's acidity or alkalinity.

goods evaluated on a 0–14 scale. The pH of the face pack's composition in rose water was discovered.

- **Calculating Ash values:**

The ash content of the product is the residue that is left over after thorough combustion. the value of ash standard used to determine the drug's identification or purity. A high ash value is a sign of contamination, adulteration, substitution in the product's manufacturing. These steps can be used to calculate ash values:

- **Sum of Ash value:**

Total ash value is beneficial for identifying low quality, depleted products as well as for identifying an of sand- and earth like materials in medication formulations. A prepared sample weighing between 2 and 4 grammes was put into a crucible that had already been lit and tared. When the substance was white, or free of carbon, it was ignited by progressively raising the heat applied to the crucible. After cooling in the desiccator, it was weighed.

With reference to the air dried sample, the percentage of total ash was calculated Insoluble in acid.

- **RHEOLOGICAL EVALUATION:**

It provides a general overview of the product's visco elastic flow characteristics. For the formulation, physical variables such the angle of repose, the tapped density, the bulk density, the Hausner's ratio, and the Carr's index were measured and calculated.

- **Angle of repose:**

The steepest angle of fall or dip in relation to the horizontal plane to which a material can be piled without stumping is known as the angle of repose, or critical angle of repose, of a granular material. It is crucial for the processing, storing, and transporting of particulate materials systems.

Because it affects how well the various particles adhere to one another, it is also helpful to quantify the flow characteristics of powder. The fixed funnel cone method determines the height (H) above a piece of paper that is placed on a flat surface. The prepared mixture was gently poured through the funnel until the conical heap peak just brushed the tip. "R" here stands for the radius of the conical pile.

Angle of repose(α) is calculated using the equation

$$\alpha = \tan^{-1} \frac{H}{R}$$

- **Tapped Density:**

A graduated measuring cylinder containing a powder sample is mechanically tapped to raise the bulk density. A powder's compressibility and flow characteristics can both be predicted using the tap density of the material. In a graduated cylinder, the capacity of the packing can be measured.

- **Bulk Density:**

The volume of each pore in the powder sample is taken into account while calculating bulk density. Bulk density is a word used to describe a way to package particles or granules. The graduated cylinder was filled with 25gms of powder that had been weighed out. It was remarked how much space the powder took up.

The calculation of bulk density is as follows:

$$D = \frac{M}{V}$$

D stands for bulk density,

M for particle mass, and

V for the overall volume that they occupy.

- **Hausner's Ratio:**

Because it is connected to interparticle friction, it can be used to forecast the characteristics of how powder flows.

The Hausner's ratio is calculated using the equation

$$\text{Hausner's ratio} = \frac{\text{tapped density}}{\text{bulk density}}$$

- **Carr's index:**

Another indirect technique for determining the powder flow from bulk density is Carr's index. It is intimately correlated with the particle size, cohesiveness, and relative flow rate. This method of generating powder flow characters is easy, quick, and well liked. The formula for calculating it is'

$$\% \text{ compressibility} = \frac{\text{tapped density} - \text{bulk density}}{\text{tapped density}} \times 100$$

Particle size is a factor that influences a number of qualities, including spreadability and grittiness. Microscopy was used to measure particle size in accordance with industry standards.(13,14,15,16)

• RESPONSE AND CONVERSATION

To ensure that the created face pack was outstanding, the following evaluation criteria were used.
organoleptic assessment

c	Parameters	Observation
1	Colour	Brown
2	Odour	Pleasant
3	Appearance	Smooth, fine
4	Texture	Fine

The evaluation of a herbal face pack for organoleptic criteria is shown in Table 1. The prepared mixture was brown in colour. The aroma of the finished mixture was pleasant and well tolerated which is ideal for cosmetic applications.

Organoleptic evaluation, Table 1

Rheological results supported the flow characteristics of natural face mask. It was discovered to be naturally free-flowing and non-sticky.

Rheological Evaluation Table 2

Sir no	Parameters	Observation
1	Volume Density	0.35g/ml
2	Density tapped	0,40g/ml
3	Posing angle	20.1 1.33
4	The hausner's ratio	17.4
5	The Carr's index	54.87
6	Particle size	

Observation: Since the face pack was discovered to be free flowing and non sticky in nature, rheological data supported the flow characteristics of the product.

The outcomes demonstrated that the formulation was stable in every way

Table 3: Evaluation of the physiochemistry

Sir no	Parameters	Observation
1	PH	6
2	Moisture level	11.34%
3	Solubility in water	16%
4	Extractive value alcohol soluble	13.6%

- **An irritation test**

An irritation test was performed on the produced herbal face, and the results are shown in Table 4.

The recipe for the herbal face pack during irritancy studies, did not exhibit any signs of redness, swelling, or irritation.

- **Test for irritability, Table 4.**

Sir no	Parameters	Observation
1	Irritation	Nil
2	Redness	Nil
3	Swelling	Nil
4	Photo annoyance	Without sensitivity

As a result of the herbals in their product, the irritancy test for irritancy, redness, swelling, and photo irritancy produced negative results.

The proteins in the skin were discovered to be compatible with natural forms without the use of chemicals.

- **Studies on stability:**

A stability study of the prepared herbal face pack was conducted, and the results are shown in Table 5. No colour variation, smell, feel, smoothness, and pH were observed.

Table 5. Stability evaluations

Sir no	Parameters	Observation
1	Room temperature	400
2	Colour	The some
3	Odour	The some
4	Tincture	Fine
5	Smoothness	Smooth
6	PH	6

Observation: Over the course of a month, stability tests conducted at various temperatures proved the face's inert state. in terms of pH, colour, odour, appearance, and texture.

• **Conclusion:**

The combined powders' dried form demonstrated strong flow characteristics, making it ideal for a face pack. organoleptic assessment demonstrated the pack's smoothness and lovely aroma. Rheological observations supported the pack's observed flow characteristics. must have a non-sticky, free-flowing character. formula was stable using its many aspects to discover its beneficial effects on the they are people.

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