

Formulation and Evaluation of Herbal Face Pack

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Abstract: *This study is about making and testing a herbal face pack for glowing skin. Many people face skin problems like pimples, acne, and blackheads. According to Ayurveda, these problems happen mainly due to impurities in the blood. Herbal face packs help improve blood flow, clean skin pores, tighten the skin, and keep it fresh. The main advantage of herbal products is that they are safe, non-toxic, and cause fewer side effects compared to synthetic cosmetics. In this work, a face pack was made with natural ingredients and tested for qualities like color, pH, consistency, washability, and antimicrobial activity. The results showed good properties and no harmful effects, making it suitable for all skin types.*

Keywords: Herbal face pack , neem , Turmeric

I. INTRODUCTION

The aim of this work is to make and test a herbal face pack using natural ingredients for glowing skin. Everyone wishes to have clear and attractive skin. Nowadays, problems like acne, pimples, and blackheads are very common. According to Ayurveda, most skin problems happen due to impurities in the blood. Herbal face packs help by improving blood circulation, refreshing the skin, keeping its elasticity, and cleaning dirt from pores. The main advantage of herbal cosmetics is that they are safe, non-toxic, and cause fewer allergic reactions compared to chemical-based products. Many natural ingredients have been proven useful since ancient times. In this work, a face pack was prepared and tested for different qualities such as color, appearance, pH, consistency, washability, and antimicrobial activity. The results showed that the face pack had good properties. Most cosmetic products available in the market are made from synthetic chemicals, which may cause side effects if used for a long time. A better alternative is herbal cosmetics, which are considered safe for daily use with minimal side effects. Since very old times, people have known the benefits of plants for keeping the skin healthy and beautiful. Cosmetics are products used to clean the skin, make it look better, and improve appearance. The skin of the face is very important as it reflects a person's health. For clear, glowing, and healthy skin, the body needs good nutrition with proteins, fats, and carbohydrates. In ancient times, women cared a lot about their beauty and looked after their skin according to their skin type. Even today, many people, especially in villages and hilly areas, still use natural remedies like neem, aloe vera, tulsi, orange peel, and rose for skincare. Herbal cosmetics are products made from natural ingredients that help in cleaning and beautifying the skin. Cosmetics are applied to the skin to clean, decorate, or improve appearance. They mainly act on the outer layer of skin without changing its normal functions. They are commonly used to reduce fine lines, wrinkles, acne, and extra oil on the face. Nowadays, people are more conscious about their looks, so the use of cosmetics has increased a lot. But too much use of chemical-based cosmetics can harm the skin instead of helping it. Because of this, herbal cosmetics are becoming more popular. These are made from natural plant extracts and sometimes animal-based products, which are safer and also provide nutrients to the skin. Herbal cosmetics focus on natural and eco-friendly ingredients, supporting a healthy and sustainable lifestyle. Since ancient times, natural plant chemicals (phytochemicals) have been used in creams, packs, and other skin products. These natural ingredients often have useful properties like protecting the skin, reducing damage, and keeping it healthy. Many natural ingredients used in cosmetics have anti-inflammatory, antimicrobial, anti-aging, anticancer, and UV-protecting properties. One common skin problem is dry and damaged skin, which shows signs like scaling, itching, and cracking. This usually happens due to dehydration, sun damage from UV rays, too much screen time lifestyle, climate changes, aging, medicines, or other reasons. Such problems can be managed with skin care products like moisturizers, creams, lotions, face packs, scrubs, oils, and serums. A face pack is a fine powder or paste that is applied to the face as a thin layer. After drying, it leaves a film that can be easily washed off with water. Regular use of face packs helps to exfoliate the skin, remove dead



cells, provide cooling and soothing effects, moisturize and nourish the skin, tighten the skin, and remove dirt and oil. These benefits help in rejuvenating the skin, which is the main purpose of cosmetics. Herbal face packs contain natural ingredients that can reduce acne, redness, pimples, wrinkles, and dark circles, while also giving fairness, nourishment, and soothing effects. They also provide nutrients and vitamins to the skin and can penetrate into deeper layers without disturbing the skin's natural functions. Depending on skin type, different ingredients are used. For example: Moisturizing packs may contain oils and butters like coconut oil, jojoba oil, almond oil, shea butter, cocoa butter. Vitamin-rich packs may include vitamin C, D, and E. For oily and acne-prone skin, ingredients like sandalwood powder, rose petals, and dried orange peel help to control excess oil, reduce acne, and lighten marks. Nowadays, herbal face packs are widely preferred over chemical ones because they are safe, non-toxic, non-allergic, and non-habit forming. In this research work, a polyherbal face pack was prepared using multani mitti (Fuller's earth), sandalwood, orange peel, rose petals, hibiscus leaves, and neem leaves. This pack not only nourishes the skin and improves glow but can also be used as a scrub to remove dead and flaky skin.

Benefits of Applying Face Packs

1. Nourishes the skin – Fruit-based face packs provide important nutrients to the skin.
2. Reduces acne and pimples – Depending on the herbs used, face packs can help clear pimples, scars, and marks.
3. Controls oil and bacteria – Packs with sandalwood and turmeric reduce pimples by controlling excess oil (sebum) and killing harmful bacteria.
4. Lightens scars and marks – Adding sandalwood, rose petals, or orange lentil powder to packs can help fade marks.
5. Removes dead skin – Face packs clear away dead skin cells.
6. Soothes and relaxes – They give a calming and refreshing effect.
7. Restores glow – Face packs bring back the natural shine of the skin.
8. Improves skin texture – With regular use, they make the skin soft, smooth, and healthy while protecting from pollution and harsh weather.
9. Prevents premature aging – They slow down the aging process of the skin.
10. Reduces wrinkles and fine lines – Natural packs keep the skin firm and youthful.
11. Keeps skin healthy – Regular use makes the skin look young, fresh, and radiant.

Material

Sr/No	Ingredient(in powder from)	Quality	Scientific Name
1	Orange peel	5g	Citrus reticulate
2	neem	5g	Azadrachta indica
3	Rose petals	QS	Rosa Rubiginosa
4	Santalum Album Linn	5g	Santalum alba
5	Mutani mitti	5g	Calcium Bentonite
6	Rose water	5g	Rosa Damascene

Formulation of face pack:

1. First, all the required herbal powders were passed through a fine sieve (100 mesh) to ensure they were of uniform size.
2. Each ingredient was weighed accurately using a digital balance. The specific amounts are shown in Table 1.
3. The herbal powders, including sandalwood (Santalum album), orange peel, and neem, were placed in a mortar and ground into a fine powder.
4. The powders were mixed thoroughly using the geometric mixing method to ensure even blending.
5. The final face pack powder was stored in an airtight container.
6. The prepared face pack was then tested using various evaluation methods.



Precautions While Applying Face Pack

1. Choose according to skin type – Take advice from a skin expert before using.
2. Do not keep too long – Remove within 15–20 minutes. Keeping longer may cause wrinkles, sagging, or large pores.
3. Use once a week – Don't peel or scratch the dried pack.
4. Remove gently – Spray room-temperature water before removal. After washing, rub an ice cube on the skin to close pores and tighten skin.
5. Avoid scrubbing hard – Vigorous rubbing may cause pimples and dark spots.
6. Keep away from heat – Do not expose skin to heat while wearing a pack.
7. Avoid eye area – Skin near the eyes is delicate, removal may damage it.

Aim and Objective

Aim: To prepare a herbal face pack for glowing skin.

Objectives:

To make a safe, herbal face pack suitable for all skin types.

To test its quality and effectiveness.

To improve blood circulation, clean pores, moisturize, tone, and rejuvenate the skin.

To help control problems caused by pollution, microbes, and aging.

II. LITERATURE REVIEW (SUMMARY)

Prathyusha & Yamani (2019): Prepared 3 gel face packs for oily skin using ingredients like turmeric, aloe vera, charcoal, honey, lemon, etc. Tested for pH, spreadability, stability – results were good.

Vidya Keshav Kakad (2022): Found that chemical products dry out skin. Herbal scrubs with natural ingredients help cleanse, soften, moisturize, reduce acne, and control oil without side effects.

Millikan (2012): Explained exfoliation (removing dead skin cells). Herbal exfoliants make skin soft, glowing, and prevent aging.

Chanchal & Saraf (2009): Prepared herbal scrub gel using green apple, cinnamon, neem, turmeric, honey, etc. These ingredients have antimicrobial, antioxidant, and anti-aging properties.

Herbal face packs are safe, natural, and effective for glowing skin. They clean, moisturize, tighten, and rejuvenate the skin while avoiding side effects of chemicals.

Herbal Ingredient Profile :

A. Orange Peel

Family: Rutaceae

Scientific Name: Citrus reticulata (commonly known as Sweet Orange)

Biological Source: The outer part of the orange peel (fresh or dried).

Main Chemical Components:

Limonene (90%)

Citral (4%)

Vitamin C

Pectin

Hesperidine

Aurantimarin

Aurantimarinic acid

Octanol (39%)

Decanal (42%)

Monoterpenes (91%)

At least 2.5% volatile oil



Other Compounds:

Linalool Methyl anthranilate Flavonoids

Minerals: Calcium, Potassium, Magnesium

Natural fibers : Pectin, Cellulose, Hemicellulose

Benefits of Orange Peel for Skin:

1. Rich in Vitamin C & Antioxidants – Protects skin from sun damage, free radicals, and premature aging.
2. Gives Instant Glow – Works as a natural skin brightener and lighteni...

Rose (Rosa rubiginosa)

Family: Rosaceae

Biological Source: Rose is a woody flowering plant of the genus Rosa.

Procedure for Applying a Face Pack:

1. Take the required amount of face pack powder in a bowl.
2. Add rose water and mix well to make a smooth paste (not too thick or too thin).
3. Apply the paste evenly on your face using a brush.
4. Make sure to cover acne spots and blemishes.
5. Leave it on until it dries completely (about 20–25 minutes).
6. Wash your face with cold water.

Method of Evaluation

The prepared face pack was evaluated using the following parameters to ensure its quality:

Organoleptic Evaluation :

The face pack was checked for its color, odor, appearance, texture, and consistency.

Color, odor, and texture were examined visually, by touch, and by sensation.

B. Rheological Evaluation This test involved checking the powder properties of the face pack.

1. Angle of Repose

A known amount of powder was allowed to fall freely from a funnel fixed at a height of 6 cm. The height (h) and radius (r) of the powder heap were measured.

Angle of repose (θ) was calculated using: $\tan \theta = \frac{h}{r}$

2. Bulk Density 25 g of powder was transferred into a graduated cylinder. Bulk density (pb) was calculated

D. Irritancy Test: A small square area (1 cm²) was marked on the left hand (back side). The prepared face pack was applied to this area and the time was noted. The skin was then checked regularly for up to 24 hours to see if there were any signs of irritation, redness, or swelling.

E. Washability: The face pack was tested to check how easily it can be washed off. It was applied on the skin and then rinsed with normal tap water to observe how easily and completely it comes off.

F. Microbial Assay: The antibacterial effect of all four formulations was tested using a modified agar well diffusion method. In this test, nutrient agar plates were prepared and seeded with 0.2 ml of a 24-hour-old broth culture of Escherichia coli and Staphylococcus aureus. After solidifying, the plates were incubated at 37°C for 24 hours. The antibacterial activity was measured by observing and recording the size of the clear zones (zones of inhibition) around the samples

III. RESULT AND DISCUSSION

The prepared face pack was tested using different evaluation parameters to ensure its quality and effectiveness.

Physical Parameters:

Different formulations of the face pack were prepared and tested for physical properties (Table 2). The flow property showed that the formulation had free-flowing characteristics. Both ash content and moisture content were found to be within acceptable limits (Table 3).



A. Organoleptic Evaluation.

The herbal face pack was tested for organoleptic (sensory) properties, as shown in Table 2. The prepared formulation was brown in color, had a pleasant odour, and showed smooth appearance and texture, which are desirable qualities for cosmetic formulations.

Table 2: Organoleptic Evaluation

Sr. No.	Parameter	Observation
1	Colour	Brown
2	Odour	Pleasant
3	Appearance	Smooth
4	Texture	Fine
5	Smoothness	Smooth

B. Rheological Evaluation

The herbal face pack was tested for its powder properties (Table 3). The results showed that the face pack had good flow properties. It was free-flowing and non-sticky in nature.

Table 3: Rheological Evaluation

Sr. No.	Parameter	Observation
1	Bulk Density	0.34 g/ml
2	Tapped Density	0.42 g/ml
3	Angle of Repose	21.3
4	Hausner's Ratio	1.36
5	Carr's Index	17.8%
6	Particle Size	55.1

Observation:

17.8% 55.1 μ m The rheological results confirmed that the face pack had good flow properties. It was free-flowing, non-sticky, and stable in all aspects.

C. Physicochemical Evaluation

The herbal face pack was tested for physicochemical properties, and the results are shown in Table 4. The pH of the formulation was neutral, making it suitable for all skin types. The formulation was also free-flowing and non-sticky. The moisture content was within the acceptable limit. The aqueous extract of the face pack was further tested for the presence of different phytoconstituents using standard methods.

Table 4: Physicochemical Evaluation

Sr. No	Parameter	Observation
1	pH	6
2	Moisture content	12%
3	Water-soluble extractive value	15%
4	Alcohol-soluble extractive value	14%
5	Total ash value	2.069%
6	Acid-insoluble ash value	0.891%

Observation:

15% 14% The moisture content value showed that the formulation is hygroscopic i...



Table 5: Irritancy Test:-

Sr. No	Parameter	Observation
1	Irritation	No
2	Redness	No
3	Swelling	No
4	Photo irritation	No irritation, no redness, no swelling

Observation:

The irritancy test showed no signs of irritation, redness, swelling, or photo-irritation. This indicates that the herbal ingredients, used in their natural form without added chemicals, are safe and compatible with the skin.

E. Stability Studies:

The prepared herbal face pack was tested for stability (Table 6). No changes were seen in color, smell, texture, smoothness, or pH.

Sr. No	Parameter	Room temp	40°
1	Colour	No change	No change
2	Odour	No change	No change
3	Texture	Fine	Fine
4	Smoothness	Smooth	Smooth
5	PH	6	6

Observation: 6 6 40°C The stability test carried out at different temperatures for one month showed that the face pack remained stable. There was no change in its color, smell, appearance, texture, or pH.

IV. DISCUSSION

The results from different tests showed that the prepared face pack had a smooth and fine texture, pale yellow color, and a pleasant smell. The powder had good flow properties. The irritancy test showed no redness, rashes, or swelling. The pH of the formulation was found to be 6, which is close to the natural skin pH, making it safe for use on the skin. The face pack was also easy to wash off and did not leave any stains on the skin.

V. CONCLUSION

The dried herbal powders used in the face pack showed good flow properties, making them suitable for use. The pack was smooth in texture, had a pleasant smell, and was free-flowing and non-sticky. It was also stable in all aspects and did not cause any skin irritation. Stability studies confirmed that the pack remained unchanged over time. More research is still needed to optimize its properties and explore its full benefits for humans. Natural remedies are generally considered safer and have fewer side effects compared to synthetic products, which is why herbal formulations are becoming increasingly popular worldwide. Herbal face packs help improve blood circulation, refresh the skin, maintain elasticity, and remove dirt from pores. In this study, we successfully prepared a face pack using natural ingredients such as multani mitti, turmeric, sandalwood, saffron, milk powder, rice flour, orange peel, and banana peel. After evaluation, the face pack was found to have good qualities, caused no irritation, and maintained its consistency even after stability testing.

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