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Research Article

Formulation And Evaluation of Herbal Face Pack Using Multani Mitti and Azadirachta Indica

Akanksha Tadas*¹, Irshad Ahmad², Aishwarya shrirao³, Dipika Naik⁴, Prajwal Deshmukh⁵

Associate Professor of New Montfort Institute of Pharmacy Ashti Wardha²

Assistant Professor of New Montfort Institute of Pharmacy Ashti Wardha³

Students Of New Montfort Institute of Pharmacy, Ashti Wardha^{1,4,5}

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ABSTRACT

The present study deals with the drug and excipient profile of natural ingredients used in the formulation of a herbal face pack. Herbal cosmetics are widely accepted due to their safety, efficacy, cost-effectiveness, and fewer side effects compared to synthetic products. The formulation contains Multani Mitti, Turmeric, Orange Peel Powder, Neem Powder, Aloe Vera, Sandalwood Powder, Amla Powder, Rose Water, and Glycerine. These ingredients possess various pharmacological properties such as cleansing, moisturizing, antioxidant, antimicrobial, anti-inflammatory, and skin-nourishing activities. Multani Mitti helps in removing excess oil and impurities, while Turmeric provides antibacterial and anti-inflammatory effects. Orange Peel Powder and Amla Powder are rich in Vitamin C and antioxidants that improve skin complexion and reduce pigmentation. Neem Powder helps prevent acne and skin infections, whereas Aloe Vera moisturizes and promotes skin healing. Sandalwood Powder soothes and cools the skin, Rose Water acts as a natural toner, and Glycerine retains moisture and improves skin texture. The study of their biological sources, chemical constituents, physicochemical properties, and therapeutic applications confirms their suitability for herbal face pack formulation. Thus, the combination of these natural ingredients provides effective skin care by cleansing, nourishing, protecting, and enhancing the overall appearance of the skin.

INTRODUCTION

1.1. HERBS

Herbs have been used for cleaning, beautifying, and managing humans since the beginning of time. Cosmetics are products that are used to clean,

***Corresponding Author:** Akanksha Tadas

Address: New Montfort Institute of Pharmacy, Ashti Wardha

Email ✉: akankshatadas2711@gmail.com

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beautify, make someone appear more attractive, or change their look. and masks pave the way for silky, luminous, and flawless skin. "Mukha lepa" is the Ayurvedic term for the herbal paste used on the face to cure pigmentation, scarring, marks, and acne. "Mukha lepana" refers to the application of a herbal concoction to the skin. This treatment is now commonly referred to as cosmetic.

1.2. HERBAL TOPICAL FORMULATION

Topical formulations made mostly of natural substances sourced from fruits, flowers, herbs, and other botanicals are known as herbal face packs. Herbal face packs promote a natural approach to skincare, in contrast to traditional face masks that could include artificial chemicals, preservatives, and scents. They are used to cleanse, exfoliate, nourish, and revitalise the skin; they are usually available in powder or paste form.

1.3. HERBAL FACE PACK



FIG:- FACE PACK APPLIED ON FACE

1.4. THE MUKHA LEPA:-

Ayurveda is in great demand in the cosmetology industry due to its distinctive conception of beauty and effective, affordable, and long-lasting beauty therapies that are free of adverse effects. In Ayurveda, the plant paste used to cure acne, pimples, scars, marks, and pigmentation is referred to as a "face pack" (Mukha Lepa). One of the most well-known, efficient, and traditional techniques

The concept of beauty is old as humanity itself. It is the natural desire of every human being to look beautiful and glamorous. The beauty and glamour are because of perfect skin. Herbs have been used for beautification from historic times and have also been described in ayurvedic literature. Herbal extracts of the herbs have been used to treat the various ailments of the skin, hair & body odour, and for overall beautifications. Beautification in terms of skin lightening, removal of scars and pigmentation, dark circles and ultimately healthy glowing skin . Everybody wants to get fair and charming skin. Now-a-day, acne, black head, pimples, dark circle are common among youngsters and person who suffers from it. According to Ayurveda, skin problems are normally due to impurities in blood. Accumulated toxins in the blood during improper food and lifestyle are causing skin related diseases. Various herbs, medicines are described in Ayurveda for blood purification .

for cleansing and improving the condition of the skin is through the use of a mukha lepa (face pack). In order to improve the skin's appearance by both cleansing the skin and creating a temporary tightening effect, it is allowed to dry or set. Varying face packs are required for varying skin types. Mukha Lepas assists us in taking care of our epidermis and demonstrates its value by promoting blood flow through the face's veins. Mukha Lepas

is beneficial for both the prevention and treatment of any skin issues.

1.5. Types of Herbal Face Packs and Their Uses

Numerous herbal face packs have been developed to address distinct skin issues. Here are a few examples:

1. For Oily and Acne-Prone Skin:

A mixture of fuller's earth, turmeric, and neem powder helps reduce excess oil and combat bacteria that cause acne.

Aloe vera, honey, and sandalwood packs offer deep hydration and relieve irritated skin for dry and sensitive skin.

2. For Evening and Brightening Skin Tone:

To lessen pigmentation and give a natural glow, blends of turmeric, gramme flour, and rose water are applied.

3. For Anti-Aging:

By feeding the skin and increasing its elasticity, herbal packs enhanced with green tea, aloe vera, and honey target fine lines and wrinkles.

1.6. Possible Factors to Think About and Safety Measures

Although herbal face packs are usually safe, take the following safety measures:

1 Patch Test:

To rule out sensitivity or allergic responses, always do a patch test prior to full-face treatment.

2 Freshness of components:

To prevent contamination and guarantee the most possible benefits, use premium, fresh herbal components.

3 Prevent Overuse:

Using some herbs, like turmeric, excessively can irritate or discolour the skin.

4 Understand Your Skin Type:

To prevent dryness or excessive oiliness, use herbal packs that are appropriate for your skin type.

5 Consultation:

Before using herbal packs, anyone with skin disorders including eczema, psoriasis, or severe acne should speak with a dermatologist.

1.5. Advantages

They help to restore the absorption of light and light skin in a short time

1. Daily use of natural masks brightens skin, improves skin tone and inflammation.
2. Face packs usually remove dead cells of skin.
3. They help to prevent premature aging of skin.
4. Nourishes the skin fruit face packs supply essential nutrients to skin.
5. They help to restore the lost shine and glow of skin in short span of time.

1.6. Disadvantages

1. One Face Pack should not be used on all faces.
2. Since all parts of our face do not have the same skin type.
3. Sometimes it takes a long time for facial packing to dry.
4. It is difficult to apply a facial pack to a person with dry skin.

1.7. Benefits of Applying Face Pack :

1. They aid in preventing early skin ageing.
2. Face packs often remove skin's dead cells.
3. Enhances skin's elasticity.
4. Reduces the visibility of wrinkles and fine lines.
5. Enhances the appearance of breakouts.
6. Moisturises and hydrates dry skin.
7. Tightens up wide pores.



8. They quickly assist in restoring the skin's lost radiance and lustre.
9. Natural face packs provide skin a youthful, healthy appearance.
5. It should be very fine and should not have any gritty particles.
6. It should remove dirt, grease, and dust from the face.

1.7. Ideal Properties of the Face Pack:

1. It should be non-toxic.
2. It should be non-irritating to the skin.
3. It should be stable both physically and chemically.
4. Its ingredients should be evenly distributed.

7. It should form a smooth paste.
8. It should have a pleasant odor.
9. After the application, it should be easily removable.

2. Material used

Sr.No.	Ingredients	Uses
1	Multani Mitti	Absorbs excess oil, cleanses pores, and gives a cooling effect to the skin.
2	Neem Powder	Possesses antibacterial and antifungal properties; helps reduce acne and skin infections.
3	Aloe Vera Powder	Moisturizes, soothes irritated skin, and promotes skin healing.
4	Orange Peel Powder	Rich in Vitamin C, helps in skin brightening and removal of dead skin cells.
5	Chandan Powder	Provides a cooling effect, reduces inflammation, and improves complexion
6	Amla Powder	Acts as an antioxidant, nourishes the skin, and helps maintain skin health.
7	Turmeric Powder	Has anti-inflammatory and antimicrobial properties; helps reduce blemishes and acne.

1. Formulation Table

Sr.No	Ingredients	F1	F2	F3	F4	F5
1	Multani Mitti	30gm	28gm	32gm	30gm	30gm
2	Neem Powder	20gm	22gm	18gm	20gm	25gm
3	Aloe Vera Powder	10gm	10gm	10gm	12gm	8gm
4	Orange Peel Powder	10gm	12gm	10gm	10gm	10gm
5	Chandan Powder	10gm	10gm	10gm	10gm	10gm
6	Amla Powder	15gm	13gm	15gm	14gm	12gm
7	Turmeric Powder	5 gm	5 gm	5 gm	4 gm	5 gm
	Total	100gm	100gm	100gm	100gm	100gm

2. methodology

Step 1: Preparation of Workspace



Equipment: Clean cloth, working table

Ensure the working area is clean and dust-free. Wipe the surface properly to avoid contamination. All preparation was carried out under hygienic conditions to prevent contamination.

Step 2: Weighing of Ingredients

Equipment: Weighing balance, weighing paper/watch glass

Accurately weigh all the dry ingredients as per formulation. Proper weighing ensures accuracy and uniformity. Accurate weighing is essential to maintain consistency and effectiveness of the formulation.



Fig: - Neem Powder

Fig: - Sandalwood Powder

Fig: - Multani Mitti



Fig: - orange peel powder

Fig: -Aloevera powder

Fig: - Turmeric



Fig: - Amla powder

Step 3: Size Reduction

Equipment: Mortar and pestle

Grind any coarse particles to obtain a fine powder. This helps in achieving a smooth texture. Fine particle size improves spreadability and enhances application properties.

Step 4: Sieving

Equipment: Sieve (fine mesh) mesh no. 120

Pass all ingredients through a sieve. This ensures uniform particle size and removes lumps. Sieving

nsures uniformity and improves the quality of the final product.

Step 5: Mixing of Ingredients

Equipment: Mixing bowl, spatula

Transfer all sieved powders into a bowl. Mix thoroughly to obtain a uniform blend. Proper mixing ensures even distribution of all active ingredients.



Fig :- Mix All The Ingredients

Step 6: Inspection of Powder

Equipment: Visual observation

Check for uniform color, smooth texture, and absence of lumps. The prepared powder should be free from impurities and lumps.

Equipment: Airtight container, labels

Transfer the prepared powder into a clean, dry airtight container. Label it properly and store in a cool, dry place. Proper storage prevents moisture absorption and increases shelf life.

Step 7: Packaging and Storage



Figure: Final Herbal Face Pack Formulation Packed in a Labeled Airtight Container Step 8: Method of Use (Application)

Equipment: Small bowl, brush/fingers

Take required quantity of powder in a bowl. Add rose water or glycerine in sufficient quantity (q.s.)

to form a smooth paste. Apply evenly on the face, avoiding eyes and lips. Leave for 15–20 minutes. Fresh preparation of paste ensures better effectiveness and safety.



Fig:-After Addition of Rose Water/Glycerine to Prepare Paste Step 9: Removal and Post-care

Equipment: Water, towel

Wash off with lukewarm water. Pat dry using a clean towel. Apply moisturizer if required. Post-

application care helps in maintaining skin hydration and softness.

3. EVALUATION PARAMETERS



1. Organoleptic Evaluation

A small quantity of the face pack is taken and examined visually. The colour, odour, appearance, and texture are observed and recorded. Equipment Used:- Visual observation and sense of smell.

2. pH Determination

A solution of the face pack is prepared. The electrode of a pH meter is immersed in the solution and the pH value is recorded. Equipment Used:- pH Meter.

3. Particle Size Analysis

The powdered face pack is passed through a standard sieve. The uniformity of the particles passing through the sieve is observed. Equipment Used:- Fine Mesh Sieve (Sieve No. 120).

4. Moisture Content Test

known quantity of face pack is weighed and dried in a hot air oven at 105°C until a constant weight is obtained. The loss in weight is calculated as moisture content. Equipment Used:- Hot Air Oven, Weighing Balance.

5. Spreadability Test

A small quantity of face pack is placed between two glass slides. Gentle pressure is

applied and the spreading ability is observed. Equipment Used:- Glass Slides.

6. Washability Test

The face pack is applied on the skin and allowed to dry. It is then washed with water and ease of removal is observed. Equipment Used:- Water and Clean Cloth

7. Irritancy Test

A small amount of face pack is applied on a small area of skin. The area is observed for redness, itching, swelling, or irritation. Equipment Used:- Face Pack Sample.

8. Stability Study

The face pack is stored under different storage conditions for a specified period. Changes in colour, odour, texture, and pH are observed. Equipment Used:- Airtight Container, pH Meter.

9. Smoothness Test

A small quantity of face pack is rubbed between the fingers or applied on the skin. Smoothness and presence of coarse particles are observed. Equipment Used:- Fingers/Glass Slide.

4. RESULTS

1. Organoleptic Evaluation – Result

Formulation	Result
F1	Good colour, pleasant odour and smooth texture
F2	Good colour, pleasant odour and smooth texture
F3	Slightly dull appearance and rough texture
F4	Very good colour and smooth texture
F5	Excellent appearance, pleasant odour and very smooth texture

2. pH Determination – Result

Formulation	Result
F1	pH 6.2
F2	pH 6.4



F3	pH 6.0
F4	pH 6.5
F5	pH 6.3 with excellent skin compatibility

3. Particle Size Analysis – Result

Formulation	Result
F1	Fine particle size
F2	Uniform particle size
F3	Slightly coarse particles
F4	Fine and smooth particles
F5	Very fine and uniform particles

4. Moisture Content Test – Result

Formulation	Result
F1	Acceptable moisture content
F2	Good moisture level
F3	Slightly high moisture content
F4	Acceptable moisture balance
F5	Optimum moisture content

5. Spreadability Test – Result

Formulation	Result
F1	Good spreadability
F2	Satisfactory spreadability
F3	Moderate spreadability
F4	Very good spreadability
F5	Excellent spreadability

6. Washability Test – Result

Formulation	Result
F1	Easily washable
F2	Good washability
F3	Moderate washability
F4	Easy removal from skin
F5	Excellent washability without residue

7. Irritancy Test – Result

Formulation	Result
F1	No irritation
F2	Mild dryness observed
F3	Slight irritation observed
F4	No irritation or redness



F5	No irritation, redness or itching
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8.Stability Study – Result

Formulation	Result
F1	Stable during storage
F2	Acceptable stability
F3	Slight texture change observed
F4	Stable without major changes
F5	Excellent stability

9.Smoothness Test – Result

Formulation	Result
F1	Smooth texture
F2	Good smoothness
F3	Slightly rough texture
F4	Smooth and uniform texture
F5	Excellent smoothness and skin feel

1. CONCLUSION

The pH of all formulations was found within the skin-friendly range and most of the formulations showed good spreadability, washability and stability. However, slight variations were observed among the batches. F2 showed mild dryness during irritancy testing, while F3 showed slightly coarse texture and comparatively lower smoothness. Among all the formulations, F5 exhibited the best overall performance with

excellent appearance, smooth texture, optimum moisture content, better spreadability, easy washability and excellent stability. F5 also showed no signs of irritation during patch testing and remained stable during storage studies. Therefore, based on the overall evaluation studies, formulation F5 was considered as the optimized herbal face pack formulation. The study concluded that the prepared herbal face pack is safe, stable, effective and suitable for cosmetic use for maintaining healthy and glowing skin.

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