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FORMULATION AND EVALUATION OF HERBAL FACE PACK

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ABSTRACT

The formulation and development of face packs aim to create products that provide skin benefits such as cleansing, moisturizing, soothing, and brightening. Face packs are topical formulations, typically applied to the face and allowed to dry, creating a temporary film that is peeled or washed off, bringing impurities and dead skin cells with it. This study focuses on designing a face pack using natural ingredients, ensuring safety and minimizing the risk of side effects commonly associated with synthetic substances. In the formulation, various natural ingredients like clay (For deep cleansing), aloe vera (For hydration and soothing), turmeric (For its antibacterial and anti-inflammatory properties), and honey (For moisturizing and antioxidant effects) are evaluated for their individual and synergistic skin benefits. The study also addresses the importance of ingredient particle size, pH, texture, and application ease in formulating an effective and consumer-appealing face pack. Additionally, stability tests were conducted to assess the shelf life and microbial safety of the product. The results indicated that a face pack formulated with these natural ingredients was effective in enhancing skin smoothness, reducing oil, and minimizing the appearance of pores, with minimal irritation. Thus, this study demonstrates that with appropriate selection and combination of natural ingredients, a safe, effective, and stable face pack can be developed for skincare ap plications.

1. INTRODUCTION

The cosmetic industry has seen significant growth with the increasing demand for skincare products that offer targeted solutions for various skin concerns. Among these products, face packshave become a popular choice due to their ability to deliver deep cleansing, hydration, and nourishment to the skin. The formulation and development of face packs are critical in

ensuring that they effectively address specific skin issues while being safe and gentle on the skin.

A face pack is typically a paste or cream-like product applied to the face to treat specific skin concerns. The formulation process involves selecting and combining various ingredients based on their properties and intended benefits. These ingredients can include natural elements such as clay, herbs, and essential oils, as well as synthetic compounds that offer additional effects, such as antiaging or anti-acne benefits.

The primary objectives of face pack development are to provide a solution for different skin types—whether oily, dry, sensitive, or combination skin—and address concerns like acne, pigmentation, dullness, or aging. Key ingredients are chosen for their ability to absorb excess oil, moisturize, exfoliate, or soothe the skin. Natural ingredients like aloe vera, honey, and tea tree oil are commonly used, as they are known for their skin-friendly properties.

The development process also involves ensuring the product's stability, ensuring that the formulation does not degrade over time and remains effective. Testing for safety and effectiveness, adherence to regulatory standards, and choosing the right packaging to preserve the product's quality are essential steps in creating a successful face pack.

In conclusion, the formulation and development of face packs involve a thorough understanding of skin care needs and the careful selection of ingredients to create products that cater to specific skin concerns. As the demand for skincare products continues to grow, innovations in face pack formulations ensure that consumers have access to effective and safe solutions for their skincare routines.*

Herbal face pack

Herbal face packs are natural skincare formulations made from plant-based ingredients such as herbs, fruits, clays, and essential oils. These face packs are designed to nourish, rejuvenate, and treat the skin while avoiding synthetic chemicals, making them ideal for individuals seeking gentle and eco-friendly skincare solutions. Herbal face packs have been a part of traditional medicine systems like Ayurveda, Unani, and Chinese medicine for centuries, offering benefits such as improving complexion, reducing blemishes, and addressing specific skin concerns like acne, dryness, and pigmentation.

Herbal face packs are gaining popularity due to their multifaceted benefits, which include antiinflammatory, antimicrobial, antioxidant, and soothing properties. They often contain ingredients such as neem, turmeric, sandalwood, aloe vera, Multani mitti (Fuller's earth), and rose petals, which are known for their skin-friendly properties.

The formulation and development of herbal face packs require a scientific approach to combine ingredients in appropriate concentrations, ensuring efficacy and safety. Parameters such as ingredient compatibility, skin type suitability, stability, and shelf life must be considered. Herbal face packs are often marketed as customizable products, allowing users to mix powders with liquids like rose water, milk, or yogurt to suit individual skin needs.

In today's cosmetic industry, the demand for herbal and organic products is on the rise, driven by consumer awareness and preference for chemical-free options. Herbal face packs align with these trends, offering effective and sustainable solutions for modern skincare.

Advantages

- Moisturizes dry skin and keeps it hydrated
- Refines large pores
- Improvises your skin texture
- Cleans your skin by absorbing excess oil
- Minimizes the appearance of fine lines and wrinkles

Introduction of Skin

The skin is the largest organ of the human body, serving as a vital barrier and interface between the internal body and the external environment. It plays critical roles in protection, sensation, thermoregulation, and maintaining overall homeostasis. Understanding its anatomy and physiology is essential for fields like dermatology, cosmetology, and medicine.

- **Anatomy of the skin**

The skin has three primary layers:

1. **Epidermis structure**

The outermost layer made of keratinized stratified squamous epithelium. Lacks blood vessels (Avascular).

Key cells

Keratinocytes: Produce keratin offering structural strength and waterproofing.

Melanocytes: Synthesize melanin for pigmentation and UVprotection.

Langerhans cells: Part of the immune response.

Merkel cells: Associated with touch sensation.

Sub-layers

Stratum corneum (Outermost, dead cells). Stratum lucidum (Only in thick skin).

Stratum granulosum.

Stratum spinosum.

Stratum basale (Innermost, site of mitosis).

2. Dermis

Structure

A thicker layer below the epidermis composed of connective tissue. Contains blood vessels, lymphatics, nerves, and appendages.

Key components

Collagen and Elastin: Provide strength and elasticity.

Fibroblasts: Produce extracellular matrix.

Glands: Sebaceous glands (Secrete sebum) Sweat glands (Eccrine and Apocrine).

Hair follicles: Anchors for hair growth.

Sensory nerve endings: Detect touch, pressure, pain, and temperature.

Layers

Papillary layer (Superficial, loose connective tissue).

Reticular layer (Deeper, dense irregular connective tissue).

3. Hypodermis (Subcutaneous layer)

Structure

Composed of adipose and connective tissue.

Function

Provides insulation, energy storage, and cushioning. Connects skin to underlying structures like muscles.

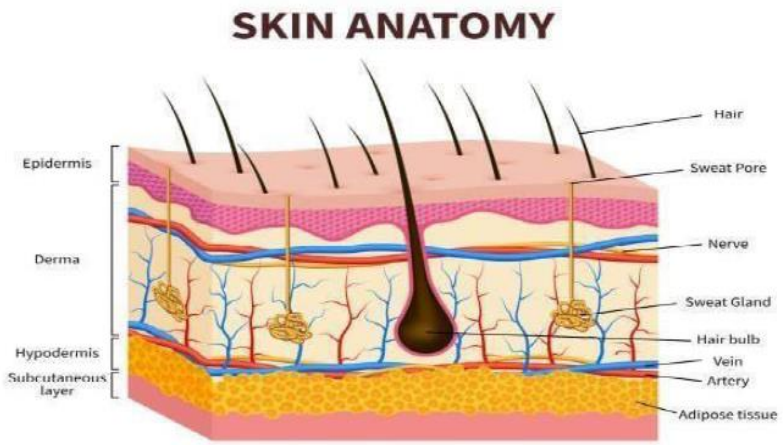

Fig. 1: Skin anatomy.

- **Physiology of the skin**

The skin performs multiple vital functions:

1. Protection

Acts as a physical barrier against mechanical injuries, pathogens, and harmful chemicals. Prevents water loss, maintaining hydration.

2. Thermoregulation

Sweat glands release sweat to cool the body.

Blood vessels in the dermis dilate or constrict to regulate heat.

3. Sensation

Specialized sensory receptors detect touch, pressure, pain, vibration, and temperature changes.

Excretion and Absorption

Excretes waste products like urea through sweat. Absorbs certain drugs and lipid-soluble substances.

Vitamin D Synthesis

The skin synthesizes vitamin D when exposed to UV radiation, essential for calcium metabolism.

Immune defense

Langerhans cells and other immune mechanisms help in detecting and responding to pathogens.

Common skin problems

1. Acne

Description: A common condition caused by clogged hair follicles and sebaceous glands.

Causes

Excess sebum production.

Bacterial infection (*Propionibacterium acnes*). Hormonal changes (e.g., puberty, menstruation). Genetics.

Symptoms

Pimples, blackheads, whiteheads, and cysts. Redness and inflammation

2. Eczema (Atopic dermatitis)

Description: A chronic inflammatory condition characterized by itchy and dry skin.

Causes

Genetic predisposition.

Allergies or immune system dysfunction.

Environmental triggers (Irritants, allergens).

Symptoms

Dry, scaly, itchy patches.

Redness and oozing in severe cases.

3. Hyperpigmentation

Description: Hyperpigmentation is a condition where certain areas of the skin become darker than the surrounding skin due to an overproduction of melanin, the pigment responsible for skin color.

Causes

Sun Exposure, Hormonal Changes,

Post-Inflammatory Hyperpigmentation (PIH).

Symptoms

Flat, darker patches of skin that vary in size and shape.

Hyperpigmentation itself does not cause pain, itching, or discomfort unless associated with an

underlying condition.).

1. **Neem (Azadirachta indica): Common name:** Neem, Indian lilac, Nimba (Sanskrit), Nim (Hindi).

Biological source: Azadirachta indica

Family: Meliaceae

Chemical Constituents: Limonoids: Azadirachtin, imboiled, and gedunin (Insecticidal and anti-inflammatory properties).

Flavonoids: Quercetin and rutin (Antioxidant and anti-inflammatory).

Tannins: Astringent and antimicrobial activity.

Terpenoids: Antifungal and insect-repelling properties.

Alkaloids: Anti-inflammatory and wound-healing properties.

Fatty acids: Oleic acid, stearic acid, palmitic acid (Present in neem oil).

Use

Skin care: Treats acne, eczema, psoriasis, and wounds due to its antibacterial andanti-inflammatory properties.

Antimicrobial: Effective against bacteria, fungi, and viruses; used for infections.

Fig. 2: Neem.

2. **Turmeric (Curcuma longa)**

Common name: Turmeric, Haldi (Hindi), Haridra (Sanskrit), Indian saffron

Biological source: Turmeric is a well- known medicinal plant that belongs to the family **Zingiberaceae:** It is widely used as a spice, coloring agent, and traditional medicine.

Family: Zingiberaceae.

Chemical constituents

Curcuminoids (2–5%): Curcumin, Demethoxycurcum Bisdemethoxycurcumin.

Volatile Oils (3–8%): Turmerone, Zingiberene, Atlantone, Sabinene.

Polysaccharides: Starch, gum-like polysaccharides.

Tannins: Antioxidant, antimicrobial.

Use

Anti-inflammatory: Turmeric is widely used to reduce inflammation in conditions like arthritis, muscle pain, and joint disorders.

Antioxidant: Curcumin, the primary compound in turmeric, neutralizes free radicals and supports overall health.

Fig. 3: Turmeric.

3. Sandalwood (Santalum album)

Common names: Sandalwood, Chandan (Hindi), Chandana (Sanskrit)

Biological source: Sandalwood refers to the wood of trees from the genus Santalum, particularly Santalum album (Indian sandalwood). The wood is highly valued for its aromatic fragrance and medicinal properties.

Fig. 4: Sandalwood.

Family: Santalaceous

Chemical constituents

Ethanol: Used as a solvent and carrier in formulations.

Furano sesquiterpenes: Includes compounds like Santalol and Santalenes, contributing to both the fragrance and the therapeutic effects.

Santolinol: Properties: Antimicrobial and potentially anti-cancer.

Use

Anti-inflammatory: Sandalwood has been traditionally used to reduce inflammation in conditions like arthritis, skin irritations, and rashes.

Antiseptic and Antimicrobial: The essential oil is used to treat wounds, cuts, and infections due to its antimicrobial properties.

4. Aloe Vera (Aloe barbadensis)

Common names: Aloe, Ghrita Kumari (Sanskrit), Kumari (Hindi)

Biological source: Aloe vera is a succulent plant known for its medicinal, cosmetic, and therapeutic applications. It belongs to the **Liliaceae** family and is widely cultivated for its gel-filled leaves.

Family: Liliaceae (or Asphodelaceae)

Chemical constituents

Glucans: Contribute to immune system support and skin regeneration.

Mannans: Assist in moisturizing and skin hydration.

Calcium, Magnesium, Zinc, Sodium, Iron, and Potassium: Essential for various body functions, including bone health, hydration, and blood circulation**.**

Use

Sunburn relief: Aloe vera gel is known for its cooling effect and is used to soothe and hydrate sunburned skin, reducing redness and irritation.

Fig. 5: Aloe Vera.

5. Multani mitti

Common name: Fuller's Earth and Multani Mitti

Biological source: it is a natural clay material composed of hydrated aluminum silicates.

Family: Bentonite clay

Chemical constituents

Alumina (Aluminum oxide): Provides absorbent properties.

Silica (Silicon dioxide): Gives the clay it cleansing properties.

Magnesium oxide: skin smoothness

Use

Cleansing and exfoliating the skin.

Figure 6: Multani Mitti.

6. Rose petal

Common name: Rose and Gulab

Biological source: Rose petals are obtained from the flowers of the plant Rosa spp., primarily Rosa damascene (Damask rose) and Rosa centifolia (Cabbage rose).

Family: Rosaceae

Chemical constituents

Fig. 7: Rose petal.

Essential oils: Citronellol, Geraniol, Nerol, Phenyl ethanol

Tannins: Astringent compounds.

Flavonoids: Quercetin and Kaempferol

Anthocyanins: Responsible for the red, pink, and purple coloration.

Use

Used in skincare products like rose water, creams, and face masks for hydrating, toning, and anti-aging effects.

Essential oils derived from rose petals are used in perfumes and aromatherapy.

Review of literature

1. **Rushabh K Jain, Utkarsha S Shivsharan, Yogesh S Darade, Ajit B Patil, Avinash H Hosmani Journal of Pharma Insights and Research 2 (2), 055-060, 2024** This research focuses on formulating and examining a natural herbal face pack designed to enhance skin radiance while addressing various skin concerns such as redness, aging, tanning, acne, scars, and wrinkles. The face pack comprises a blend of natural ingredients known for their skin-nourishing properties, including hibiscus powder, Tulsi, turmeric, sandalwood, ashwagandha, rose petals, and rice flour powder.

2. **RK Jain, US Shivsharan, YS Darade, AB Patil - Journal of Pharma, 2024 -** jopir. Formulation of Herbal face pack S Thombare, A Bhigare - International Journal of Pharmaceutical, 2024 - ijpsjournal.com The use of herbal drugs has grown globally. The delivery of herbal medications in innovative formulations encounters obstacles. Consider a face pack made of Himalayan neem. A natural herbal face pack designed to enhance skin radiance while addressing various skin is fortified with essential vitamins crucial for maintaining vibrant and glowing skin.

3. **S Kumar, A Kumar, K Samanta - Journal of Pharmaceutical, 2023 -** search.ebscohost.com Formulations of face packs found to be good in physical parameters, free from skin irritations so we found good properties forth face packs.

4. **Y Kamble, G Choudhary, K Kishor - 2023 -** wjpr.s3.ap- south1.amazonaws.com A multi herbal face pack for cosmetic purpose from herbal effect which is suitable for a face pack. An herbal face pack are used to stimulate blood circulation.

5. **Kalyani Arun Chaudhary, International Research Journal of Modernization in Engineering Technology and Science, 2023-** The purpose of this work is to create and test an herbal face mask for shiny skin using natural ingredients. The Natural Face Pack contains some of the vitamins needed to keep our skin healthy and radiant. The aim of this work is to formulate and evaluate an herbal face pack for glowing skin by using natural herbal ingredients.[5]

6. **SY Sandanshiv, SR Patil, VD Wagh - Journal of Drug, 2023 -** jddtonline.info Based on different skin type, face pack can be formulated prepare nourishing and moisturizing face pack different oils like work aimed to formulate and evaluate poly herbal face pack.

7. **SA Avhad, A Dixit, SS Bhakare, JK AKIWATE – Journal of Drug, 2022**, jddtonline. info The face packs from natural origin to contain some important ingredient such as vitamins for face. The objective of this work is to formulate and evaluate a polyherbal face pack.

8. **AK Nagre, SS Khan, JP Joshi-world journal, 2022-**wjpr.s3.ap- south1.amazonaws. Herbal face packs are thought to be a long-lasting and effective technique to improve skin's appearance. Thus, the current study is an excellent attempt to make a herbal face pack.

9. **AA Shimpi, AS Pawara - Research Journal of Pharmacology, 2022 -** indianjournals.com.skin. The purpose of this work is to create and test an herbal face mask for shiny skin using natural ingredients. The Natural Face Pack contains some of the vitamins needed to keep our skin healthy.

10. **AS Vats, S Maurya - 2022 -** wjpr.s3.ap-south-1.amazonaws.com Herbal ingredients opened the way to formulate cosmetics without any harmful effect. Herbal face packs good attempt to formulate the herbal face pack containing naturally available.

11. **SS Londhe, AA Joshi, GN Sapkale – International Journal, 2021-** academia.edu Herbal face pack are thought to be a long-lasting and effective technique to improve skin appearance. Thus, the current study is an excellent attempt to make a herbal face pack.

Aim

R Kumar - Asian Journal of Pharmaceutical Research, 2021 **- indianjournals.com an**

effective herbal face pack for glowing skin by using natural Ayurvedic formulations are safer than synthetic formulation because its side effect is very low.

To formulate and develop a natural, effective, and safe face pack using herbal and organic ingredients that provides skin benefits such as cleansing, exfoliation, hydration, and rejuvenation.

Objective

- **Ingredient selection**

- Identify and select suitable natural ingredients with proven skin benefits, such as anti-aging, anti-inflammatory, and brightening properties.

- **Formulation development**

- Develop a face pack with a balanced combination of ingredients to achieve desired physical and chemical stability.
- Optimize the formulation for ease of application and removal.

- **Safety and Compatibility**

- Ensure the face pack is safe for use on different skin types by conducting compatibility tests.

- **Efficacy testing**

- Evaluate the effectiveness of the face pack in terms of skin hydration, cleansing, and improving skin texture.

- **Quality assessment**

- Conduct physicochemical tests (pH, viscosity, particle size) to ensure consistent quality.
- Analyze microbial stability to confirm its safety for consumer use.

- **Consumer acceptability**

- Assess user satisfaction through sensory evaluation and surveys.

- **Packaging and Preservation**

- Select eco-friendly and effective packaging materials to maintain the product's stability.

- Identify natural or safe preservatives to enhance shelf life.

Raw Materials & Formula for formulating herbal face pack

Table 1: Raw material.

Raw material	USES	Quantity of Sample per 100gm
Multani mitti	**Cleanse:** Remove dirt, grime, and other impurities **Exfoliate:** Remove dead skin cells	40
Turmeric powder	**Skin health:** Turmeric may help with skin whitening, dark spots, and acne. You can mix turmeric powder with yogurt or lemon juice and apply it to your face for 15–20 minutes.	5
Sandalwood	**Anti-inflammatory:** Used to reduce inflammation in conditions like arthritis and skin irritations. **Antiseptic:** Helps in healing wounds, cuts, and infections.	10
Aloe vera	Moisturize and soothe skin	5
Rose petal	Provides Hydration to skin	5
Neem	**Acne treatment:** Neem oil is used for its antibacterial properties to treat acne and pimples. **Skin soothing:** Used to treat eczema, psoriasis, and other skin irritations.	10

METHODOLOGY

Process of Formation of Herbal Face Pack: Step-by-Step

Formulating a herbal face pack involves selecting natural ingredients that are beneficial for different skin types. The process includes creating a mixture of these ingredients to address specific skin concerns like acne, dryness, pigmentation, or aging. Here's a detailed **step-by-step process** with theoretical explanation:

Step 1: Selection of ingredients

The effectiveness of a herbal face pack depends on the ingredients selected. These ingredients contain bioactive compounds that benefit the skin. Each ingredient has unique properties based on its chemical composition (e.g., antioxidants, anti- inflammatory agents, vitamins, etc.).

- **Clay (Multani Mitti or Fuller's Earth):** Absorbs excess oil, draws out impurities, and helps cleanse the skin.
- **Aloe vera gel:** Moisturizes the skin, soothes inflammation, and promotes healing.
- **Turmeric:** Known for its anti-inflammatory, antibacterial, and skin- brightening

properties.

- **Neem powder:** Contains antibacterial and antifungal properties, useful for acne and skin irritation.
- **Sandalwood powder:** Soothes the skin, reduces acne, and has anti-aging effects.
- **Honey:** Hydrates and nourishes the skin, while its antibacterial properties help withacne.
- **Rose water:** Acts as a natural toner, balances skin pH, and hydrates the skin.
- **Essential oils:** (Lavender, Tea Tree, etc.): Provide additional therapeutic benefits such as calming or antiseptic effects.

Step 2: Preparing the base of the face pack

The base of a face pack plays a crucial role in the consistency and application of the product. Common bases are clays or powders that, when mixed with a liquid, form a paste. The base also determines the pack's primary function, such as oil absorption or hydration.

- **Clay base**
  - *Multani Mitti* (Fuller's Earth) is commonly used for oily skin types as it helps absorb excess oil and cleanse the pores.
  - Gram Flour or Rice Flour can also be used for sensitive or dry skin types as amild exfoliant.

- **Liquid base**
  - The liquid can be rose water, milk, or aloe vera gel, which helps hydrate and activate the powders, making them spreadable and effective. o For oily skin, rose water or lemon juice is preferred to balance oil production. For dry skin, milk or aloe vera gel provides moisture.

Step 3: Mixing the ingredients

When the selected ingredients are mixed, the chemical properties of each ingredient combine to create a synergistic effect. For instance, the antibacterial properties of neem and turmeric combined with the soothing effects of aloe vera can work together to reduce acne and inflammation. The texture should be smooth for easy application.

- **Add herbal powders**
  - Mix appropriate herbal powders, such as turmeric, neem powder, or sandalwood powder, into the base.
  - The powders offer different skin benefits based on their chemical constituents. Turmeric, for example, contains curcumin, known for its skin-brightening and anti- inflammatory

properties.

- **Add moisturizers**
  - Honey is added for its moisturizing properties and antibacterial effects, which help treat acne and nourish the skin.
  - Yogurt can be used for additional moisture and to provide a smooth texture.

- **Optional additives**
  - If needed, add a few drops of essential oils like tea tree (for acne) or lavender (for soothing) to enhance the therapeutic properties of the pack.

- **Consistency adjustment**
  - If the pack is too thick, add a little more liquid (rose water or aloe veragel). If it's too thin, add more powder to achieve a smooth, spreadable paste.

Step 4: Application of the face pack

Proper application ensures that the active ingredients can penetrate the skin effectively. Applying the face pack on clean, dry skin maximizes its effectiveness.

- **Cleanse the skin**
  - Wash the face with a gentle cleanser to remove dirt, oil, and impurities. This ensures that the ingredients in the pack can work without interference from surface-level grime.

- **Apply evenly**
  - Using your fingers or a brush, apply the face pack evenly to the face, avoiding the eye and mouth areas.
  - The even distribution ensures all parts of the skin benefit from the ingredients.

Step 5: Let the Pack Sit and Dry

Allowing the pack to sit on the skin for a certain amount of time helps the active ingredients penetrate the skin. For clay-based packs, drying also helps absorb excess oil and impurities from the skin.

- **Leave it on for 10-15 minutes**
  - If the pack contains clay, it will begin to dry. This helps to tighten pores and removeexcess oils.
  - If using moisturizing ingredients like aloe vera or honey, the pack may remain moist, allowing hydration and soothing effects.

- **Watch for skin reaction**
  - Always perform a patch test before applying a face pack to the entire face, especially when using ingredients like essential oils or turmeric, which may causeirritation in sensitive skin.

Step 6: Rinse off

Rinsing the face pack removes the active ingredients and any absorbed impurities. Proper removal ensures the skin does not feel dry or irritated after the treatment.

Rinse with lukewarm water

Gently rinse off the face pack using lukewarm water. Use your fingertips to gently massage the face in circular motions while rinsing to exfoliate dead skincells.

Pat dry

After rinsing, pat your face dry with a soft towel. Avoid rubbing, as the skin may be sensitive after treatment.

Step 7: Moisturize

After using a face pack, the skin may be slightly dry or sensitive, so it is essentialto apply a moisturizer to lock in hydration and prevent moisture loss.

Apply a suitable moisturizer

Use a lightweight, non-comedogenic moisturizer for oily skin or a richer cream for dry skin to restore moisture balance.

Evaluation studies

Physicochemical evaluation

Physicochemical parameters were determined, including the determination of moisture content, extractive values, pH and ash values.

Organoleptic evaluation

The organoleptic parameters include its nature, color, odor, feel and consistency which were Evaluated manually for its physical properties.

Table 2: Organoleptic evaluation.

Sr. no.	Parameters	Observations
1	Color	Light Green
2	Odor	Characteristic
3	Appearance	Powder
4	Smoothness	Smooth
5	Texture	Fine Not Gritty

Irritancy test

- Irritancy test determines if a material or chemical can cause local irritationto the skin, eyes, or mucosal tissues.

Table 3: Irritancy test.

Sr. no.	Parameters	Observations
1.	Irritation	-
2.	Swelling	-
3.	Redness	-

Angle of repose

The angle of repose is the steepest angle at which a granular material can be piled on a horizontal surface without slumping.

- **Angle of repose**

Table 4: Flow properties and Angle of repose's.

Flow property	Angle of repose (Degrees)
Excellent	25-30
Good	31 -35
Fair-aid not needed	36-40
Passable – may hang up	41-45
Poor – must agitate, vibrate	46-55
Very poor	56-65
Very, very poor	>66

Stability testing

No Change in color, Oduor, texture and smoothness was observe d at mentioned conditions of stability except pH. The stability studies showed slight change in pH of Formulation at 40°C.

Table 5: Stability testing.

pH	Room temperature	40°C
6.91	6.91±0.12	6.88±0.13

DISCUSSION

- From the above observations, it has been notified that since the formulation is made up of naturally occurring dried Herbal ingredients, there are almost negligible chances of the deterioration of the formulation, as there is no moisture Containing the element in raw as well as processed form.
- However, the use provides smooth and clear skin within 4-5 days. Its continuous use shows superb effects such as flawless, radiant and clear skin.

CONCLUSION

The formulation and development of a face pack are crucial processes in creating a skincare product that is effective, safe, and user-friendly. A well- designed face pack can address various skin concerns, such as excess oil production, dryness, acne, or dullness, while promoting skin health and radiance. The success of a face pack formulation depends on the thoughtful selection of ingredients, precise mixing techniques, and thorough evaluation of the product's stability and efficacy.

This process begins with identifying the target audience and their specific skincare needs. Based on these factors, suitable ingredients are chosen, such as clays for cleansing, herbal powders for their therapeutic properties, and humectants for hydration. The blending of dry and wet phases ensures a smooth consistency, while pH adjustment to a skin-friendly range of4.5 to 5.5 enhances compatibility with the skin.

Stability testing is essential to confirm the product’s shelf life and ability to withstand different environmental conditions. Performance and safety evaluations, including patch tests, ensure the face pack is both effective and non-irritating to users. Proper packaging in airtight containers helps preserve the product's quality and extends its usability.

The development of a face pack is not only a technical challenge but also an opportunity to incorporate natural and sustainable ingredients, meeting the growing consumer demand for eco- friendly and safe skincare products. By adhering to scientific principles and regulatory standards, the formulation can achieve a balance of performance, aesthetics, and safety, making it a valuable addition to personal care routines.

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