

“Formulation and Evaluation of Herbal Face Pack”

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ABSTRACT:

In the present era, a large number of Indian population rely on the traditional system of medicine which is mostly plant based due to the wide applicability of the plant materials. Now a day the development of herbal and ayurvedic preparation is increasing progressively. Specially, the incorporation of the medicinal plant materials in pharmaceutical dosage forms is gaining much importance. Important pharmaceutical packs and semi solid preparations containing medical agents intended for external application. The aim of our formulation is to explore the many medicinal uses of various herbs in nature. Tea tree oil, jojoba oil, and walnut oil are used to produce a broad range of beneficial effects on the skin. The required ingredients should be processed to create the ideal formulation. Once the formulation is complete, we will conduct various evaluation tests, such as organoleptic, rheological, biological, and stability studies, were conducted for the period of 45 days with the interval of 15 days.

Key words: tea tree oil, jojoba oil, walnut, organoleptic, rheological, biological studies

I. INTRODUCTION

Cosmetics are commercially available products that are used to improve the appearance of the skin by action of cleansing, beautifying, promoting attractiveness. The cosmetics, according to the Drugs and Cosmetics Act is defined as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness or altering the appearance. The fact that herbal products have less negative effects and health hazards is a major factor in this development. Furthermore, there has been an increase in the usage of herbal medications and herbal cosmetics due to consumers' increased awareness of health and quality of life. Face pack is the smooth powder which is used for facial application. These preparations are applied on the face in the form of liquid or pastes and allowed to

dry and set to form film giving tightening, strengthening and cleansing effect to the skin. The current research article focuses on formulating and assessing an herbal face pack aimed at enhancing skin radiance, utilizing natural ingredients such as Multani mitti, turmeric, sandalwood, orange peel, and aloe vera. They are usually left on the skin for ten to twenty five minutes to allow all the water to evaporate, the resulting film thus contracts and hardens and can easily be removed. There is a global trend these days toward adopting natural lifestyles and using herbal goods. For a healthy lifestyle, people are choosing more and more natural foods, herbal remedies, and natural healing techniques.

Benefits of Applying Face Packs

1. Nourishes the skin. Fruits face packs supply essential nutrients to the skin.
2. Face pack usually removes dead cells of skin.
3. Helps to reduce acne, pimples, scars and marks depending on its herbal ingredients.
4. These face packs provide soothing and relaxing effects on skin.
5. Regular use of natural face masks bring glow to skin, improve skin texture and complexion.
6. They help to restore the lost shine and glow of skin in short span of time.
7. They help to prevent premature aging of skin.
8. Natural face packs make the skin look young and healthy
9. Feeds the skin. Essential fruit face packs are available. Vitamins for the skin.
10. Depending on its herbal ingredients aids in reducing acne, pimples, scars, and marks.
11. Face packs typically remove skin's dead cells.
12. The skin is soothed and relaxed by these face masks.
13. They aid in quickly restoring the skin's lost radiance and glow.
14. They aid in preventing early skin ageing.
15. Nourishes the skin. Fruit face packs supply essential nutrients to the skin.

16. Helps to reduce, acne, pimple, scars, and marks depending on its herbal ingredients.



Fig.no:01. Face pack applied to face

Precautions to be Taken While Applying Face Packs

1. Select the face packs according your skin type.
2. The face pack should not be left on face, or than 15-20 minutes. Keeping for very long times may result in formation of wrinkles, sagging of skin and enlargement of open pores.
3. Avoid applying face pack near “eye zone”. The skin around eye is very delicate
4. Applying face pack in a week. Don't try to peel or straiten the dried face packs. This may harm underlying skin.
5. Spray water on face before removing dried face pack. After removing the mask roll an ice cube on facial skin which helps to use open pores and tightens skin

II. PLANT PROFILE

Melaleuca alternifolia:

Tea tree oil is a powerful essential oil derived from the leaves of the *Melaleuca alternifolia*, a small tree native to Australia. Known for its strong antiseptic, antimicrobial, and antifungal properties, it has been used for centuries by Indigenous Australians for medicinal and therapeutic purposes. Today, tea tree oil is a popular ingredient in a wide range of health and beauty products, from skincare and hair care to household cleaners.



Figure no 02:. Tea tree oil

Simmondsia chinensis

Jojoba Oil is a natural liquid wax extracted from the seeds of the *Simmondsia chinensis* plant, native to the deserts of southwestern North America. Unlike many vegetable oils, jojoba oil is not a true oil but a liquid wax ester, making it chemically similar to the natural oils produced by human skin. It has been used for centuries by indigenous peoples of the region for its moisturizing and healing properties. Jojoba oil is renowned for its versatility and is widely used in the cosmetics and skincare industry due to its ability to deeply hydrate, balance oil production, and promote skin elasticity. It is also used in hair care products to help with dryness, frizz, and scalp health. Rich in essential fatty acids, antioxidants, and vitamins like Vitamin E, jojoba oil is celebrated for its ability to nourish and protect both skin



Figure no:03.Jojoba oil

Juglans regia:

walnut (*Juglans*) is a deciduous tree species famous for its **nut** and **high-quality wood**. Native to various parts of the world, including **Europe, Asia, and North America**, the walnut tree is most commonly associated with its edible seeds, known as **walnuts**. These nuts are highly nutritious, packed with healthy fats, proteins, vitamins, and antioxidants, making them a popular food choice. Walnut trees are also valued for their **wood**, which is dense, durable, and prized in the making of **furniture, cabinetry, and veneers**. The tree's leaves, bark, and husks have also been used in traditional medicine for various purposes



Figure no:04. Walnut

HONEY:

Honey is a sweet, viscous substance produced by honeybees from the nectar of flowers. It has been used by humans for thousands of years not only as a natural sweetener but also for its medicinal properties and cultural significance. The process of making honey begins when bees collect nectar from flowers, which is then brought back to the hive. The nectar is partially digested by the bees and stored in hexagonal wax cells, where it eventually turns into honey through evaporation and enzyme activity



Figure no:05. Honey

Avena sativa:

Oatmeal is produced by processing the grains of *Avena sativa*, often in forms such as rolled oats, steel-cut oats, or instant oats. It is a popular food product due to its high fiber content, particularly beta-glucan, and its nutritional benefits like protein, vitamins, and minerals



Figure no 06. Oat meal powder

Cicer arietinum:

Besan (also known as gram flour or chickpea flour) is made from chickpeas (*Cicer arietinum*). It is commonly used in South Asian and Middle Eastern cuisines for various dishes. Here's the scientific classification of chickpeas



Figure no:07. Besan

Aloe barbadensis miller:

Aloe vera is a succulent plant species from the genus *Aloe*. Known for its healing and soothing properties, it has been used for centuries in traditional medicine and beauty treatments. The plant is native to the Arabian Peninsula but is widely cultivated in tropical and subtropical regions around the world



Figure no: 08. Alovera gel

Citrus limon:

Lemon (scientific name: *Citrus limon*) is a small, yellow, citrus fruit known for its tart, tangy flavor and high vitamin C content. It is widely used in cooking, beverages, and for its medicinal properties. Lemons are native to Asia but are now grown in many tropical and subtropical regions worldwide. The fruit is rich in antioxidants, citric acid, and essential nutrients that offer various

health benefits. Lemons are commonly used to add flavor to food and drinks, as well as in making lemonade, salad dressings, and marinades. They are also used for cleaning purposes due to their natural acidity and antibacterial properties. Beyond culinary uses, lemon juice and lemon oil have been utilized in traditional medicine for their potential to boost immunity, aid digestion, and promote skin health.



Figure no:09. lemon

Curcuma longa:

Turmeric (*Curcuma longa*) is a bright yellow-orange spice derived from the rhizomes (underground stems) of a flowering plant in the ginger family, Zingiberaceae. Known for its earthy, slightly bitter flavour and vibrant colour, turmeric has been a staple in culinary traditions for centuries, particularly in South Asia. It is a key ingredient in Indian, Middle Eastern, and Southeast Asian cuisines, and is widely used to flavour and colour curry dishes, rice, and spices.



Figure no: 10. turmeric

Lactobacillus delbrueckii:

Yogurt is a dairy product made by fermenting milk using bacterial cultures. It doesn't have a traditional "scientific classification" in the same way animals or plants do, but its components and the organisms involved in its production can be categorized scientifically. Here's a breakdown



Figure no: 11. Yougurt powder

Lavandula angustifolia:

Lavender powder is a finely ground form of lavender flowers, typically made from the dried blooms of *Lavandula angustifolia*, the most widely cultivated species of lavender. Known for its soothing, aromatic properties, lavender has been utilized for centuries in various cultures for its medicinal, cosmetic, and culinary benefits. The powder form retains the plant's distinctive fragrance, making it a popular ingredient in a wide range of products such as lotions, soaps, bath salts, and sachets, as well as in therapeutic remedies



Figure no: 12. Lavender powder

Beta vulgaris:

Beetroot powder is a highly concentrated form of dried and ground beetroot (*Beta vulgaris*), a root vegetable known for its vibrant colour and numerous health benefits. Rich in essential nutrients such as vitamins, minerals, antioxidants, and dietary fibre, beetroot powder offers a convenient way to incorporate the nutritional goodness of beetroot into daily diets. Its high nitrate content is particularly beneficial for improving blood circulation and lowering blood pressure, making it popular among health-conscious individuals and athletes. Additionally, beetroot powder supports heart health, digestive function, and detoxification, while also serving as a natural food colorant



Figure no:13. Beetroot powder

METHOD OF PREPARATION:

- All the required herbal powders for the face pack preparation were accurately weighed individually by using digital balance.

- The herbal powders [API] were transferred to mortar and pestle and triturated.
- Other herbal excipients were triturated in a separate mortar and Pestle to form a uniform fine mixture.
- Previously prepared mixture of herbal powders was transferred to the mixture of fine Powders and triturated to obtain uniform drug powder of face pack.
- The powders were passed through sieve no #44
- The prepared face pack powder was packed into a self-sealable polyethylene bag, Labeled and used for further studies and instantly face pack is prepared by mixing with herbal liquid ingredients.

Table no:01

ANTI ACNE HERBAL FACE PACK	ANTI AGINING HERBAL FACE PACK	SPF HERBAL FACE PACK
Tea tree oil	Jojoba oil	Walnut powder
honey	honey	honey
Oatmeal powder	Besan	Fresh aloe vera gel
Lemon juice	Rose water	Rose water
Turmeric powder	Turmeric powder	Turmeric powder
Yogurt powder	Yogurt powder	Yogurt powder
Lavender powder	Lavender powder	Lavender powder
Beetroot powder	Beetroot powder	Beetroot powder

EVALUATIONS:

Evaluation is the structured interpretation and giving of meaning to predicted or actual impacts of proposals or results. It looks at original objectives, and at what is either predicted or what was accomplished and how it was accomplished.

Types of evolution for face pack:

I. Organoleptic evaluation

- Color
- Taste
- Odour
- Texture
- Size

II. Rheological evaluation

- Bulk density
- Tapped density

- Carr's index

- Angle of repose

- Haunser's ratio

III. Physicochemical evaluation

- Ash value

- Water soluble ash

- Acid insoluble ash

IV. Irritancy test

- Skin irritancy test

- Eye irritancy test

- Patch test

V. Washability

VI. PH

VII. Loss on drying [moisture content]

VIII. Microbial load

IX. Stability studies

- No change in color

- No change in Odour
 - No change in texture
 - No change in PH
- X. Morphological evaluation

- Particle shape
 - Particle composition
- XI. SPF determination

III. RESULTS AND DISCUSSION:

Table no: 02 Results

Parameters	formulation 1	formulation 2	formulation 3
Organoleptic properties			
Color	Pinkish red	Light yellow	Pinky yellow
taste	Earthy flavor	Mild aromatic	Slight bitter
odour	Pleasant	Pleasant	Pleasant
Texture	Smooth	smooth	smooth
size	uniform	uniform	uniform
Rheological properties			
Bulk density	0.458 gm/cm ³	0.51 gm/cm ³	0.51 gm/cm ³
Tapped density	0.71 gm/cm ³	0.72 gm/cm ³	0.72 gm/cm ³
Carr's index	41.17	57.7	57.7
Angle of repose	35.78 °C	37.6 °C	37.6 °C
Hausners ratio	1.41	1.57	1.57
Physiochemical properties			
Ash value	7.55%	12.5%	10%
Water soluble ash value	21%	19%	25.5%
Acid insoluble ash value	7%	6%	10%
Irritancy test			
Skin irritancy test	No irritancy	No irritancy	No irritancy
Eye irritancy test	No irritancy	No irritancy	No irritancy
Patch test	No irritancy	No irritancy	No irritancy
wash ability			
Ease of washing	Yes	Yes	Yes

Table no :03 Results:

PH			
PH	8.2	8.5	8.14
Loss on drying			
LOD	23.5%	36.5%	27%
Microbial load			
Microbial growth	no	no	no
Stability result			
Stability studies	stable	stable	stable
SPF			
SPF	–	–	good

IV. CONCLUSION :

The herbs used in the formulation of the herbal face pack belong to a general category, making them easy to prepare and use. Our face pack is safe, with no side effects, and helps improve the condition of the skin. It is easy to apply, enhances the skin's glow, reduces the formation of wrinkles, and boosts SPF protection. The evaluation tests conducted on the formulation have yielded satisfactory results as per standards. This herbal formulation is a better alternative to synthetic skincare products, as it works in harmony with your skin's needs. Regular use of herbal face packs can address a variety of skin concerns, leaving your skin feeling refreshed, balanced, and glowing. By embracing the power of nature, herbal face packs offer a simple, sustainable, and safe skincare solution for healthier, more radiant skin. Research on herbs in nature for exfoliation reveals various unique uses of specific herbs, which can be valuable for formulating efficient, cost-effective, and eco-friendly products.

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