

Develop and Assess a Multifunctional Herbal Face Pack

Sakshi Dhananjay Patil^{1,*}

Abstract

The present study was aimed to develop and assess a multifunctional herbal face pack that reduces tan lines and brightens skin through the trituration of herbal ingredients. Following preparation, the formulation was assessed using a variety of criteria, including, extrudability, stability, irritant test, physicochemical, and organoleptic factors. Physically, the formulation was found to be good, devoid of skin irritation, and able to retain its consistency even after stability in storage. A herbal face pack helps to clear impurities from pores, tone skin muscles, and increase blood flow. The benefit of using herbal cosmetics is that they are non-toxic, minimize negative effects, and lessen allergic reactions. The thought behind formulation and evaluation of this multifunctional face pack is to demonstrate the utility of time, results after use, and its properties. The less time required as compared to the products used individually showed same results as that of this formulation. So, main concern was to give better results with lesser time and negligible side effects. Multiple natural ingredients were used in this formulation for its individual special properties, giving significant desirable effects.

Keywords: herbal face pack, multitasking formulation, natural ingredients, natural ingredients for natural youth skin, herbal cosmetics

INTRODUCTION

Since ancient times, people have been aware of the benefits of using plants to meet the basic requirements for healthy and beautiful skin. Products called cosmetics are used to improve, clean, and beautify one's appearance [1]. The skin of the face, which serves as a mirror reflecting a person's health, is a significant part of the body. A well-balanced and protein-rich diet is essential for maintaining healthy skin. According to Open Dermatology, the skin needs lipids and carbohydrates to stay clear, shiny, and healthy. Ancient women were very much aware about their looks and took extra care for their skin types. These days, people look forward to natural medicines, especially in rural and hilly areas [2]. Products that are created utilizing a variety of approved cosmetic ingredients to create a basis upon which one or more herbal substances are added solely to provide specific cosmetic benefits are referred to as "herbal cosmetics" [3]. Several benefits are associated with these active compounds, such as improved skin elasticity, reduced wrinkles that postpone ageing, antioxidant capabilities that shield the skin from ultraviolet (UV) rays, and prevention of collagen degradation [4].

*Author for Correspondence

Sakshi Dhananjay Patil

E-mail: sakshiptl1101@gmail.com

¹Research Scholar, Department of Pharmaceutics, Poojya Sane Guruji Vidya Prasarak Mandal's College of Pharmacy, Shahada, Nandurbar, Maharashtra, India

Received Date: April 01, 2024

Accepted Date: May 17, 2024

Published Date: July 12, 2024

Citation: Sakshi Dhananjay Patil. Develop and Assess a Multifunctional Herbal Face Pack. Research & Reviews: A Journal of Pharmacognosy. 2024; 11(2): 1–7p.

In today's world, most people, especially those living in rural and hilly areas choose natural medicines such as Neem, Aloe vera, Tulsi, Orange peel, Rose, and so on for several cosmetic applications. The skin can be cleansed and hydrated with the help of herbal cosmetics. Being entirely natural and having no adverse effects on the human body is the primary advantage of utilizing herbal cosmetics. Due to overexposure to the Sun, pollutants, and other reasons, skin might become rough and darken if not taken adequate care [5]. Over exposure to heat dehydrates the skin, which leads to sunburns, wrinkles, freckles, and

pigmentation flaws. Common wintertime side effects include cuts, splits, maceration, and infection [6]. The only source of support was the *Ayurvedic* knowledge of nature, which was elaborated upon. Numerous plants and herbs were used by the *Ayurvedic* science to create cosmetics that protect skin from the effects of the outside world [7]. They do not cause allergies, toxicity, or habit formation. They have longer shelf life and are natural in every way. There are no extra preservatives in them. They are simple to prepare and can be kept for an extended period of time. The formulation and characterisation of a cosmetic herbal face pack consisting of natural ingredients are the topics of the present research article [8].

OBJECTIVES

- Creating a formulation free of silicon and parabens.
- Creation of minimal or insignificant formulation side effects.
- Creating a formulation that can decrease pigmentation, tanning, increase brightness and radiance, improve skin complexion, and also eliminate debris and dead skin cells.

METHODOLOGY

How to Use?

- Take a face pack and apply the appropriate amount to cover the entire face.
- Evenly apply and massage into the face for 10 min. Rose water or cold milk can be used in the meantime, moving in a circular manner.
- After that, wait for 20 min. Avoid talking while grinning as this can help in avoiding fine lines and wrinkles.
- Next, use regular water to moisten the face and scrub in a circular motion [9].

Method of Preparation

There are two ways to prepare a face pack—the trituration method and the fusion approach. When the base is solid or semisolid, the fusion method is employed whereas when the base is liquid or semisolid, the trituration method is employed. In this case, the face pack was prepared using the trituration process. To ensure consistent mixing, all solid materials are sieved via sieve number 22, which is accomplished using a geometric mean. Afterwards, liquid is added to the solid herb combination; for consistency, this often involves trituration. Trituration is continued until a consistent, desired product is attained. Once the liquid and solid components have been combined, perfume is added to adjust the formulation's overall scent. This is how a herbal multipurpose face pack is made [10].

COMPOSITION OF HERBAL INGREDIENTS

The composition of herbal ingredients used in the prepared herbal face pack is given in Table 1.

Table 1. Ingredient composition for 100g sample.

S.N.	Name of ingredients	Sample for 100 g in %
1	Milk powder	31.45
2	Tomato powder	12.17
3	Coffee powder	10.17
4	Rice flour	7.60
5	Gram flour	7.60
6	Manjishta powder	1.01
7	Glycerine	24
8	Sodium benzoate	0.2
9	Hydroxypropyl methylcellulose (HPMC)	3
10	Orange oil	1
11	Water	qs.

Ideal Properties of Herbal Formulation [11]

1. Boost the blood flow in capillaries.
2. Antioxidant qualities for cellular renewal and restoration.
3. Increasing penetration to all skin layers by penetrating moisture and nutrients.
4. Exfoliating the skin to get rid of dead cells.
5. The herbal approach, which focuses mostly on skin care routines that include washing, nourishing, and moisturizing the skin.
6. Rice flour absorbs extra oil in the skin while maintaining the skin's oil level.
7. Tomatoes are useful in eliminating dead cells.
8. Tightens pores, lessens oiliness, stops acne, and functions as a natural sunblock, provides skin with a youthful look and soothes irritated skin.
9. Gram flour, or *besan*, works well as an exfoliant. It tightens skin pores after removing all debris and dust that has become lodged in them.
10. Milk and milk powder are effective natural cleaners. It has lactic acid that clears the pores and gets rid of microorganisms causing acne.
11. A number of skin disorders, including acne, infections, and wounds, can be treated with Manjistha's anti-inflammatory, antibacterial, and antioxidant properties.

Benefits of Face Pack, Scrub and Cleansing

Benefits of Applying Face Pack [12]

- Nourishes the skin by supplying essential nutrients to the skin.
- They help to restore the lost shine and glow of skin in short span of time.
- The harmful effects of pollution and harsh climates can be effectively combated with judicious use of face packs.
- They help to prevent premature aging of skin.

Benefits of Cleansing [13]

- Maintain hydrated, silky, supple, and youthful-looking skin.
- Remove dead and dried skin cells to expose a new layer of skin with a natural radiance.
- Increase blood flow to the face by stimulating blood circulation for radiant skin.
- Help combat symptoms of aging and make the skin appear younger.
- Remove any accumulation for skin that is smoother and healthier.
- Facilitate the skin's optimum absorption of other skin care products.

Benefits of Applying Face Scrub [14]

- It enhances the texture and tone of skin. The skin's surface accumulates debris, oil, and dead skin cells every day, which can make it appear and feel dry and lifeless.
- It clears clogged pores, aids in the fading of scars and spots, speeds up the absorption of skin care products, and combats aging symptoms.

HERBAL INGREDIENTS [14]

Coffee

- *Biological source*: It is obtained from dried ripe seed of *Coffea arabica*.
- *Common name*: Coffee bean, Coffee seed
- *Family*: Rubiaceae
- *Geographical source*: Ethiopia, Brazil, India, Vietnam, Indonesia
- *Part used*: Coffee beans or seeds
- *Colour*: Brown
- *Odour*: Characteristic
- *Taste*: Bitter

- *Constituents*: Caffeine, tannin, fixed oil, and proteins
- *Uses*: Beverages, stimulant and diuretic actions in cosmetic formulations as exfoliator

Gram Flour (*Besan*)

- *Biological source*: It is a pulse flour made from type of ground chickpea *Cicer arietinum*
- *Common name*: Gram, Bengal gram, *Besan*
- *Family*: Fabaceae
- *Geographical source*: India, Nepal, Pakistan
- *Colour*: Yellow, Powdery yellow
- *Constituents*: Carbohydrates
- *Uses*: Acne fighter, tan removal, skin lightener

Rice Flour

- *Biological source*: It is obtained from seed of the grass species *Oryza sativa* L.
- *Common name*: Rice, Asian rice, African rice.
- *Family*: Poaceae
- *Geographical source*: India, China, Indonesia, Vietnam, Japan
- *Part used*: Kernels of brown and white grains
- *Colour*: Brown, White
- *Odour*: Strong scent
- *Taste*: Slightly nutty, vegetal flavor
- *Constituents*: Starch, Carbohydrates, Protein, Vitamins
- *Uses*: In (herbal) cosmetic formulations, Exfoliating agent, Oil absorbing properties

Tomato Powder

- *Biological source*: Tomato powder is derived from edible berry plant *Solanum lycopersicum* L.
- *Common name*: Tomato, Tomati (West Africa)
- *Family*: Solanaceae
- *Geographical source*: India, Spain, China, Mexico, Italy
- *Part used*: Pulp of tomato
- *Colour*: Red
- *Odour*: Very strong odour
- *Taste*: Sweet as of natural tomato
- *Constituents*: Lycopene, Vitamins, Antioxidants, Folates
- *Uses*: Prevents acne, Natural sun protectant, lefts glow on skin

Milk Powder

- *Source*: Milk obtained from cow was dried
- *Colour*: White
- *Odour*: Pleasant
- *Taste*: Sweet
- *Constituents*: Lactose, Proteins, Minerals
- *Uses*: Cleansing agent, moisturizer, toner, brighter skin complexion

Manjishta

- *Biological source*: *Rubia cordifolia*
- *Common name*: Majith
- *Family*: Rubiaceae
- *Geographical source*: *Rubia cordifolia* Linn. is the accepted source of Manjistha in indigenous medicine. According to a recent study, market samples of *R. cordifolia* from south India were found to be derived from *R. tinctorium*.

- *Constituents:* Quinones, Iridoids, Oleananes, Triterpenoid, Bicyclic hexapeptides, Anthraquinones
- *Uses:* Manjistha herb can be used both internally and externally on skin for promoting skin whitening [15].

EVALUATION PARAMETERS

Organoleptic Evaluation

The nature, colour, odour, feel, and consistency of the organoleptic criteria were assessed manually in relation to their physical characteristics [16].

Physicochemical Evaluation

Utilizing an incinerator, the ash content was determined. The pH was measured with a pH meter, and the drying loss was also measured [17].

Irritancy Test

On the dorsal surface of the left hand, mark a square centimeter. A certain amount of ready-made face packs were applied to the designated region, and the time was recorded. For a full day, irritability, erythema, and edema were recorded and monitored at regular intervals [18].

Stability Studies

For formulations, stability testing was done by storing the manufactured formulation under various temperature settings for a month. The composition of packed glass vials were examined for physical characteristics such color, odour, pH, consistency, and feel after being kept at room temperature at 35°C and 40°C [19].

RESULTS

The organoleptic evaluation indicated a pleasant odor, brown color, fine texture, and paste-like nature (Table 2).

Table 2. Evaluation parameters of herbal face pack.

Organoleptic Evaluation		
S.N.	Evaluation parameter	Observation
1	Nature	Paste
2	Odour	Pleasant
3	Colour	Brown
4	Texture	Fine
<i>Irritancy test</i>		
5	Irritation	No
6	Redness	No
7	Swelling	No
<i>Stability test</i>		
8	Colour	No changes
9	Odour	No changes
10	pH	6.12±0.12
11	Texture	Fine
12	Smoothness	Smooth
<i>General characteristics</i>		
13	Spreadability	Spread easily
14	Wash ability	Easily washable
15	Consistency	Paste like

Storage Condition

Keep mud or clay-based face packs fresh in a non-metallic and airtight jar. The container should be kept at room temperature in a drawer. To ensure a long-lasting storage, pry open the lid and scrape the edges and rim of the container with a clean spoon or finger. It is advisable to keep face packs refrigerated. They are used to help hydrate and deeply moisturise the skin.

Uses of Herbal Formulation

Women have been using rice powder as a natural beauty enhancer for generations. Because of their inherent anti-aging and oil-absorbing qualities, they are beneficial for dull, greasy, or acne-prone mature skin. In addition, it works wonders as a natural skin-whitening and anti-inflammatory, soothing agent against sunburned skin making it smoother and fairer. A coffee scrub exfoliator is a natural solution that makes skin look younger and more radiant while reducing wrinkles and other indications of aging. Coffee scrub efficiently cleanses, cures, hydrates, and renews the skin as a natural exfoliant. It has the following properties:

- It is preservative free.
- Only authorized synthetic and natural colors are used.
- Offers soft-to-light exfoliation and creates beautiful impact.
- It is natural, non-toxic, non-cosmedogenic, non-allergic, and biodegradable. It is a gentle yet powerful abrasive that exfoliates skin organically to bring back its attractiveness.

Advantages of Multitasking Herbal Cosmetic Formulation

Herbal beauty products can be used for treating any skin issue including blackheads, wrinkles, fine lines, pigmentation spots, acne, and blemishes in addition to achieving glowing and vibrant skin. When used consistently, the outcome is beautiful, smooth skin that glows with health. Herbal formulations have a longer history of use and are more accepted and tolerated by patients. The only viable source of sustained medical supplies for the world's expanding population is found in herbal or medicinal plants. Availability of medicinal plant is not a problem, particularly in emerging nations with significant agroclimatic, cultural, and ethnic biodiversity such as India. Growing and collecting medicinal plants and herbal goods doesn't harm the environment. Herbal medicinal plants found all over the world have contributed many strongest medications and drug combinations to the enormous supply of pharmaceuticals that contemporary science has access to, both in its raw and pure forms. They blend in with skin and hair with ease. They have no unfavourable side effects and do not cause allergic reactions. Compared to synthetic cosmetics, they are more effective when used in modest quantities. They are widely accessible and come in a wide variety and quantity.

Disadvantages of Multitasking Herbal Cosmetic Formulation

- Herbal formulations require long-term therapy and have a slower rate of impact than allopathic formulations.
- The manufacturing process is difficult and time-consuming.
- There is no pharmacopoeia that specifies the usage of any particular method or component in herbal cosmetics.

CONCLUSION

The herbal ingredients such as *C.arabica*, *C. arientinum*, *R.cordifolia*, *S.lycopersicum* L. and *O.sativa* L. are used in powdered form in order to make face pack. The powdered form of ingredients is passed through sieve no.22 to get uniform particle size to make uniform preparation while base is liquid in nature so that trituration method is suitable to get desired product. To sum up, the conclusion behind this formulation was to develop herbal preparation which has minimal or negligible side effects as compared to chemically-made face packs. A number of people suffer from side effects of chemical-based face packs such as rashes, acne, allergic reactions, etc. The herbal face pack showed its effects such as reduced tanning, dark spots and pigmentation, and enhanced brightness and glow on the skin.

REFERENCES

1. Rani S, Hiremanth R. Formulation & Evaluation of Poly-herbal Face wash gel. *World J Pharm Sci.* 2015; 4(6): 585–588p.
2. Sowmya KV, Darsika CX, Grace F, Shanmuganathan S. Formulation & Evaluation of Poly-herbal Face wash gel. *World J Pharm & Pharma Sci.* 2015; 4(6): 585–588p.
3. Draelos ZD. Botanical antioxidants. *Cosmetic Dermatol.* 2003; 16(10): 41–42p.
4. Draelos ZD. Topical Anti-inflammatory agents. *Cosmetic Dermatol.* 2003; 16(10): 41–42p.
5. Ashawat MS, Banchhor M. Herbal Cosmetics Trends in skin care formulation. *Pharmacogn Rev.* 2009; 3(5): 82–89p.
6. Kole PL, Jadhav HR, Thakurdesai P, Nagappa AN. Cosmetics potential of herbal extracts. *Indian Journal of Natural Products and Resources.* 2005; 4(4): 315–321p.
7. Harry RG. *Modern Cosmeticology* [Online], Volume 1. USA; Chemical Publishing Company; 1962.
8. Kumar KK, Sasikanth K, Ndorababu SM. Formulation and Evaluation of Diacerein Cream. *Asian J Pharm Clinical Research.* 2011; 4(2): 93–98p.
9. Frison S, Sporns P. Variation in the flavonol glycoside composition of almond seedcoats as determined by maldi-tof Mass spectrometry. *J Agric Food Chem.* 2002; 50: 6818–6822p.
10. Chanchal D, Swarnlata S. Herbal Photoprotective Formulations and their Evaluation. *The Open Natural Products Journal.* 2009; 2: 71–76p. Available from: <https://benthamopen.com/ABSTRACT/TONPJ-2-71>
11. Saewan N, Jimtaisong A. Natural products as photoprotection. *Journal of Cosmetic Dermatology.* 2015; 14(1): 47–63p.
12. 5 Benefits of using a face scrub. *Jurlique* [Online]; 2022 Jun 8. Available from: <https://www.jurlique.com/us/blog/5-benefits-of-using-a-face-scrub.html>.
13. Buhse L, Kolinski R, Westenberger B, Wokovich A, Spencer J, Chen CW, Turujman S, Gautam-Basak M, Kang GJ, Kibbe A, Heintzelman B. Topical drug classification. *International Journal of Pharmaceutics.* 2005; 295(1–2): 101–112p.
14. Bureau of Indian Standard. Face Pack-Specification, IS 15153: 2002. India: BIS; 2002 Aug (cited on 2016 Aug 5).
15. Mandeep S, Shalini S, Sukhbir LK, Ram KS, Rajendra J. Preparation and Evaluation of Herbal Cosmetic Cream. *Pharmacology Online.* 2011; 2: 1258–1264p.
16. Rani SR, Hiremanth. *Textbook of Industrial Pharmacy, Drug delivery systems & Cosmetics & Herbal drug technology*, 2nd Edition. India: Universities Press Ltd.; 2002.
17. Deshmukh P, Telrandhe R, Gunde M. Formulation and Evaluation of Herbal Toothpaste: Compared With Marketed Preparation. *International Journal of Pharmaceutics and Drug Analysis.* 2017; 5(10): 406–410p.
18. Frison S, Sporns P. Variation in the flavonol glycoside composition of almond seedcoats as determined by maldi-tof Mass spectrometry. *J Agric Food Chem.* 2002; 50: 6818–6822p.
19. Kannala T. Herbal cosmetics. *Pharmacognosy III* [Online]; 2014 Dec 4. Available from: <https://www.slideshare.net/tonykannala/herbal-cosmetics-42357442>