

FORMULATION AND EVALUATION OF HERBAL FACE PACK FOR SKIN REVITALIZATION

Author- Sharmeen Khatun*

Affiliation -

M. Pharm. IIIrd sem, Institute of
Pharmaceutical sciences, Sage
University, Indore (M.P.)

Contact No.-

+91 9136766324

Email Address-

sharmin192003@gmail.com

Received on 15/11/2025

Revised on 20/12/2025

Accepted on 25/12/2025

Published on 30/12/2025

Co-Author- Adarsh Pandey Pandey,
Akanksha Ghodke, Anuradha
Dhokpande,
Dr. Aakash Singh Panwar

Affiliation -

Professor, Institute of Pharmaceutical
sciences, Sage University, Indore (M.P.)

ABSTRACT

Skin rejuvenation is a cosmetic treatment which aims to restore healthier, smoother appearance by improving its texture, skin tone, wrinkle and scar. Skin rejuvenation is achieved through surgical or nonsurgical methods. The regular use of synthetic skin care agents cause swollen rash, itchiness, eczema, psoriasis, hives, etc. Healthy skin is smooth, moisturize, radiant and hydrated . Herbal cosmetics are rich in vitamins, minerals and anti-oxidants which nourish the skin and enhance its overall health. Bentonite clay (Multani mitti), Pterocarpus santalinus (red sandalwood), Apis mellifera (honey), Aloe barbadensis miller (aloevera), Brassica napus (glycerine), Curcuma longa (turmeric) and Rosa damascene (rose water) are several herbal ingredients that were used for the formulation which acts as a bleaching agent, evens out skin tone, anti-aging properties, anti-inflammatory properties, anti-oxidant properties, anti-allergic properties, moisturize the skin, purifies blood and hydrates the skin. Formulation F1, F2, F3, F4, F5, F6 were prepared out of which formulation F2 was found to be best with their result. Evaluation parameters like physico chemical, organoleptic, stability, washability, spreadability and irritancy test were performed and have proved the better nourishment and eliminated various skin problems. Results found satisfactory when undergone through various evaluation parameters. Above test result concludes that skin rejuvenating herbal face pack successfully flourish benefits by eliminating acne, pimple marks, providing soothing, calming and cooling effect that ultimately helps in restoring natural glow of skin.

Keywords: Cosmetics, skin rejuvenation, face pack, herbal, honey, red sandalwood, aloevera, turmeric, rose water, glycerine, multani mitti.

1. Introduction

I Skin

Skin is the largest organ of the body it acts as a barrier against microbes, UV and pathogens. The epidermis, dermis and subcutaneous tissue (hypodermis) are three layers of the skin in our body. The epidermis is the top most layer, the dermis is the middle layer and hypodermis is the base layer of the skin. The epidermal layers consist of stratum basale, stratum spinosum, stratum granulosum, stratum lucidum, and stratum corneum. The dermis consists of two connective tissue layers, papillary and reticular. The hypodermis is the deepest skin layer and it is primarily composed of adipose tissue (fat cells), connective tissue, adipose lobules, sensory neurons, blood vessels, nerves and skin appendages such as hair follicles.¹

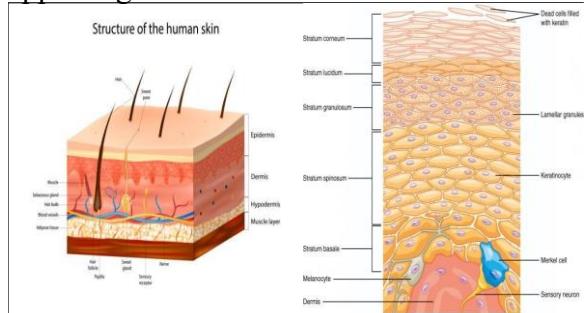


Fig.1.1. Structure of skin
II Skin rejuvenation

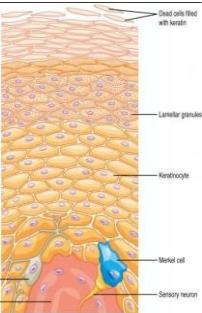


Fig. 1.2. Layers of skin

Skin rejuvenation is a cosmetic treatment which aims to restore healthier, smoother appearance by improving its texture, skin tone, wrinkle and scar. Skin rejuvenation is achieved through surgical or nonsurgical methods. Surgical method restore facial symmetry through targeted procedures, facial restructuring and skin alterations it include a brow lift, eye lift, face lift, chin lift, and neck lift. Non- surgical method target specific depths of facial structure and treat localized facial concerns such as wrinkles, skin laxity, hyper pigmentation and scars it concludes chemical peels, neuromodulator, dermal filters, laser resurfacing, photo rejuvenation, radiofrequency and

ultrasound.²

III Herbal cosmetics

According to the Drugs and Cosmetics Act cosmetics is defined as article intended to be rubbed, poured, sprinkled, or sprayed on, introduced into or otherwise applied to the human body or any part for cleansing, beautifying, promoting attractiveness or altering the appearance. Products that contain herbs in their raw or extracted form are known as herbal cosmetics. Herbs are unprocessed plant parts. Along with plants, herbal materials also include fresh juices, gums, essential oils, resins, and dry powder of various herbs. Herbal cosmetics are the products that are used to purify and beautify the skin. They are non-toxic and non-allergenic in nature. Herbal skin care product include creams, moisturizers, ointments, lotions, face wash, etc.³

IV Herbal face pack

Herbal face packs are also called as mukha lepa in Ayurveda they are traditional cosmetic preparations made from plant parts such as extracts, powder, or paste applied topically to cleanse, nourish, tighten, detoxify, and rejuvenate the skin. Face packs with natural constituents are rich in vital vitamins that are essential for the healthy and glowing skin.⁴

V Ingredients used in the formulation

The present research deals with the formulation and evaluation of herbal face pack for skin rejuvenation by using natural materials, i.e., Bentonite clay (Multani mitti), Pterocarpus santalinus (red sandalwood), Apis mellifera (honey), Aloe barbadenis miller (aloevera), Brassica napus (glycerine), Curcuma longa (turmeric) and Rosa damascene (rosewater).⁵

2. Material and methodology

All the extracts were procured from Amsar Pvt Ltd. As gift sample. The ingredient use for the preparation of herbal face pack are.

Sr. No	Common name/ Botanical name	Color	Odour	Uses
1.	Multani mitti/ Bentonite clay	Yellowish Brown	Earthy	Absorbs excess oil, dirt, cleanse and exfoliates skin.
2.	Red sandalwood Pterocarpus santalinus	Deep reddish brown	Earthy and woody	Brightens, even out skin tone and reduce pigmentation.
3.	Honey/ Apis mellifera	Golden amber	Sweet	Moisturizes and nourishes skin.
4.	Aloevera/ Aloe barbadensis miller	Transparent to pale green	Gentle aromatic	Hydrates and soothes irritated skin.
5.	Glycerine/ Brassica napus	Colorless	Odorless	Hydrates, retain moisture in the skin and enhance skin barrier.
6.	Turmeric/ Curcuma longa	Bright yellow	Spicy aromatic	Anti-inflammatory anti-bacterial, brightens and even out skin tone.
7.	Rose water/ Rosa damascena	Colorless	Floral	Soothes skin irritation. redness and refreshes skin.

Table No 2.1 Ingredients for herbal face pack

3. Formulation of herbal face pack

S. No	Ingredients	F1	F2	F3	F4	F5	F6
1.	Multani mitti	30 gm	35 gm	40 gm	30 gm	35 gm	40 gm
2.	Red sandalwood	25 gm	25 gm	25 gm	20 gm	20 gm	20 gm
3.	Honey	10 ml					
4.	Aloevera	10 ml					
5.	Glycerine	10 ml					
6.	Turmeric	1g m	1 gm				
7.	Rose water	Qs.	Qs.	Qs.	Qs.	Qs.	Qs.

Table no 3.1 Formulation of herbal face pack

4. Procedure for herbal face pack application

Prepared face pack powder were taken in a bowl

and rose water was added. It was mixed with the help of trituration method to form a semisolid paste with optimum thickness. It was applied evenly on the face with the help of a brush. Kept it as it is to dry completely for 20-25 minutes then washed it with cold water.⁶

5. Evaluation and results

The optimized formulations were checked for physico-chemical evaluation, organoleptic evaluation, irritancy test, stability studies, spreadability studies, washability studies.⁷ Results obtained from formulation F2 were found to be best among all the optimized formulations.

a) Physico-chemical evaluation

Physico-chemical evaluation justifies the flow properties of the face pack, formulations were examined for the following physico-chemical properties as tapped density, bulk density, angle of repose, pH, carr's index, hausner's ratio.⁸

S.No.	Parameters	Observations
1.	Tapped density	0.56g/ml
2.	Bulk density	0.47g/ml
3.	Angle of repose	23.7
4.	pH	6.6
5.	Carr's index	16 %
6.	Hausner's ratio	1.19

Table No. a) Physico-chemical evalution

b) Organoleptic evaluation

Organoleptic evaluation of the formulation was evaluated by the sensory analyzing method based on the nature, color, odour, appearance and texture.⁹

S.No.	Parameters	Observations
1.	Nature	Semisolid
2.	Color	Reddish brown
3.	Odour	Pleasant
4.	Appearance	Smooth
5.	Texture	Fine

Table No. b) Organoleptic evaluation

c) Irritancy test

Irritancy test for irritation was performed and was found to be negative result for irritancy, redness, swelling, and photo irritancy.¹⁰

d) Stability studies

Stability testing of prepared formulation was conducted by storing the formulation at different room temperature i.e. 35°C and 40°C for the period of one month and the formulation were compared for parameters evaluated like color, odor, pH, texture and appearance with the result of fresh formulation.¹¹

S.No.	Test Parameters	35°C	40°C
1.	Colour	Reddish brown	Reddish brown
2.	Odour	Pleasant	Pleasant
3.	pH	6.6	6.6
4.	Texture	Fine	Fine
5.	Appearance	Smooth	Smooth

Table No. d) Stability studies

e) Spreadability studies

Spreadability of the face pack were determined, 1gm of formulation was placed between two glass plates with in a circle of 1 cm diameter. A weight of 500 gm was allowed to rest on the upper glass plate for 5 minutes the increase in the diameter was noted and it was calculated using formula $S = m.l/t$.¹²

Where, S = spreadability, m = weight tied to upper slide, l = length of the glass slide, T = time taken

f) Washability studies

Washability is the common method for checking the washing ability of the formulation. The formulation was applied on the skin and then extent of washing with water were checked manually by using 1 liter of water to remove all the content of formulation that was applied on the surface of the skin.¹³

The above evaluation parameters were performed broadcasting physico-chemical evaluation,

organoleptic evaluation, irritancy test, stability studies, washability studies and spreadability studies respectively.

6. Conclusion

Herbal face packs are gaining popularity due to their natural and non-toxic effect. It helps to improve blood circulation, rejuvenate skin, maintain skin elasticity and cleanse pores. The formulation were made from ingredients like multani mitti, red sandalwood, aloe vera, honey, rose water, glycerine and turmeric that nourishes the skin and helps reduce acne, pimples, scars and marks. It exfoliates, soothes and restores the skin's natural glow effectively over time. From the above results, it has been observed that there are almost negligible chances of the deterioration of the formulation. The formulation were kept for a month at room temperature of 35°C and 40°C to observe stability like changes in it's color, pH, odor, texture and appearance. The formulation was found to be stable.

7. Reference

1. Panwar AS, Rathore P. Impact of formulation excipients on skin barrier functions: A review. Int J Pharm Chem Anal. 2024;11(1):41–44.
2. Haykal D, Cartier H, Goldberg D, Gold M. Advancements in laser technologies for skin rejuvenation: A comprehensive review of efficacy and safety. Journal of Cosmetic Dermatology. 2024 Aug;23(10):3078–3089.
3. Lakhe D, Aher S, Bachhav RS. Herbal cosmetic: A best approach for treating skin disorders. International Journal of Pharmaceutical Sciences. 2024;2(1):562–586.
4. Kumar S, Mishra A, Pandey AK. Evaluation of herbal face pack for skin care. Int J Pharm Sci. 2019;11(2):45–52.
5. Mukherjee PK. Herbal cosmetics and cosmeceuticals. J Cosmet Sci. 2016;67(4):215–225.
6. Shinde P, et al. Formulation and application of herbal face pack. Int J Res Pharm Sci. 2020;11(2):1523–1529.
7. Patel RP, Patel G, Baria AH. Formulation and evaluation of herbal cosmetic preparation. Asian J Pharm Res. 2017;7(3):153–160.
8. Aulton ME, Taylor KMG. Aulton's pharmaceutics: the design and manufacture of medicines. 5th ed. London: Elsevier; 2018.

9. Martin A, Sinko PJ, Singh Y. Martin's physical pharmacy and pharmaceutical sciences. 6th ed. Philadelphia: Lea & Febiger; 2011.
10. Organisation for Economic Co-operation and Development (OECD). OECD guideline for the testing of chemicals: skin irritation/corrosion. Paris: OECD Publishing; 2015.
11. International Council for Harmonisation (ICH). ICH Q1A(R2): stability testing of new drug substances and products. Geneva: ICH; 2003.
12. Lachman L, Lieberman HA, Kanig JL. The theory and practice of industrial pharmacy. 4th ed. New Delhi: CBS Publishers; 2013.
13. Allen LV. Pharmaceutical compounding: nonsterile preparations. 6th ed. Philadelphia: Lippincott Williams & Wilkins; 2017.