

Formulation And Evaluation of Herbal Neem Face Pack

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Abstract—The present study was focused on the formulation and evaluation of an Herbal Neem Face Pack Powder using natural herbal ingredients possessing cosmetic and therapeutic benefits for skin care. Herbal cosmetics are widely accepted due to their safety, effectiveness, fewer side effects, and easy availability. Neem (*Azadirachta indica*) is one of the most important medicinal plants known for its antibacterial, antifungal, anti-inflammatory, and anti-acne properties. The prepared herbal face pack was designed to cleanse, nourish, rejuvenate, and protect the skin naturally.

The formulation contains neem powder as the major active ingredient along with other herbal ingredients such as turmeric, Multani mitti, sandalwood powder, gram flour, orange peel powder, rose petal powder, and aloe vera powder. These ingredients were selected based on their traditional medicinal uses and cosmetic properties. The powders were accurately weighed, sieved, mixed uniformly, and evaluated for various parameters such as color, odor, texture, smoothness, irritancy, washability, pH, and stability. The formulated herbal neem face pack showed good organoleptic properties, excellent spreadability, easy washability, and no signs of skin irritation. Neem and turmeric exhibited antimicrobial action helpful in reducing acne and skin infections, while multanimitti and sandalwood provided cooling and oil-absorbing effects. Orange peel and rose petal powder improved skin glow and complexion. The overall formulation was found to be safe, stable, economical, and effective for maintaining healthy skin. Thus, the developed herbal neem face pack can be considered as a promising natural cosmetic preparation for skincare management with minimal side effects compared to synthetic cosmetic products.

I. INTRODUCTION

Herbal cosmetics have gained tremendous popularity in recent years due to their natural origin, safety, and therapeutic value. Unlike synthetic cosmetic products, herbal formulations are prepared using plant-based ingredients that possess medicinal as well as cosmetic

properties. Herbal face packs are one of the most commonly used herbal cosmetic preparations for maintaining healthy skin. They help in cleansing, beautifying, nourishing, and rejuvenating the skin naturally without producing harmful side effects.

Skin is the largest organ of the human body and acts as a protective barrier against environmental pollutants, microorganisms, ultraviolet radiation, and harmful chemicals. Due to increasing pollution, stress, unhealthy lifestyle, and excessive use of synthetic cosmetic products, various skin problems such as acne, pimples, pigmentation, dryness, wrinkles, and infections are becoming very common. Herbal face packs provide a natural and effective solution for these skin-related disorders by improving blood circulation, removing dead skin cells, controlling excess oil, and enhancing skin glow.

Among various medicinal plants, Neem (*Azadirachta indica*) is considered one of the most valuable herbs in traditional Ayurvedic medicine. Neem possesses excellent antibacterial, antifungal, anti-inflammatory, antioxidant, and antiseptic properties. It is widely used in skincare preparations for the treatment of acne, pimples, eczema, skin allergies, and infections. Neem leaves contain important phytoconstituents such as nimbin, nimbolide, azadirachtin, quercetin, and flavonoids which contribute to its medicinal activities. Due to these properties, neem is selected as the major active ingredient in the present herbal face pack formulation.

The herbal neem face pack powder formulated in this study also contains other natural ingredients such as turmeric, multani mitti, sandalwood powder, gram flour, orange peel powder, rose petal powder, and aloe vera powder. Each ingredient contributes specific benefits to the formulation. Turmeric acts as an antimicrobial and anti-inflammatory agent; multani mitti helps absorb excess oil and impurities;

sandalwood provides cooling and soothing effects; orange peel powder improves complexion and removes tanning; gram flour acts as a cleansing agent; rose petal powder refreshes the skin; and aloe vera moisturizes and nourishes the skin.

The main objective of preparing the herbal neem face pack is to develop a safe, effective, economical, and completely natural cosmetic product suitable for various skin types. The formulation aims to reduce acne, improve skin texture, remove dirt and excess oil, and provide healthy glowing skin. Since herbal products have minimal side effects and better patient acceptability, they are increasingly preferred over chemical-based cosmetic formulations.

Therefore, the present project focuses on the formulation and evaluation of a herbal neem face pack powder using different herbal ingredients and studying its physicochemical and cosmetic properties for effective skincare management.

II. LITERATURE SURVEY

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III. AIM & OBJECTIVE

Aim: The main aim of the present study is to formulate and evaluate a Herbal Neem Face Pack Powder using natural herbal ingredients for effective skin care, cleansing, nourishment, and acne prevention with minimal side effects.

Objective:

1. To prepare an herbal face pack powder using neem and other natural herbal ingredients.
2. To utilize herbal ingredients possessing antibacterial, antifungal, anti-inflammatory, and antioxidant properties for skin protection.

3. To develop a safe, economical, and effective herbal cosmetic formulation suitable for different skin types.
4. To evaluate the prepared herbal neem face pack for various physicochemical parameters such as color, odor, texture, smoothness, pH, washability, and irritancy.
5. To study the role of neem in reducing acne, pimples, excess oil, and skin infections.
6. To improve skin appearance, complexion, and freshness using natural plant-based ingredients.
7. To promote the use of herbal cosmetics as an alternative to synthetic cosmetic products.

4. All ingredients were mixed thoroughly by geometric mixing method to obtain a homogeneous blend.
5. The prepared powder mixture was observed for uniformity, color, texture, and odor.
6. The final herbal neem face pack powder was stored in an airtight container to protect it from moisture and contamination.

IV. INTRODUCTION OF INGREDIENT

Ingredient:

Sr. No.	Ingredient	Quantity
1	Neem Powder	25 g
2	Multani Mitti	20 g
3	Turmeric Powder	10 g
4	Sandalwood Powder	10 g
5	Gram Flour	15 g
6	Orange Peel Powder	10 g
7	Rose Petal Powder	5g
8	Aloe Vera Powder	5g



Procedure

1. All the ingredients were accurately weighed using a digital weighing balance.
2. The powders were sieved separately through sieve number 80 to obtain uniform particle size and remove impurities.
3. The measured quantities of neem powder, multani mitti, turmeric powder, sandalwood powder, gram flour, orange peel powder, rose petal powder, and aloe vera powder were taken in a clean and dry mortar.

Method of Application

1. Take an adequate quantity of herbal neem face pack powder in a clean bowl.
2. Add sufficient quantity of rose water, milk, or plain water to prepare a smooth paste.
3. Apply the paste uniformly on the face and neck area while avoiding contact with eyes.
4. Allow the face pack to dry for about 15–20 minutes.
5. Wash thoroughly with clean water and pat dry.
6. The face pack can be used 2–3 times a week for better results.

Evaluation Parameters

The prepared herbal neem face pack powder was evaluated for the following parameters:

- Color
- Odor
- Texture
- Smoothness
- pH
- Irritancy test
- Washability
- Stability
- Spreadability
- Homogeneity

These parameters were studied to determine the quality, safety, stability, and acceptability of the prepared herbal formulation.

V. RESULT

The present study was carried out to formulate and evaluate an Herbal Neem Face Pack Powder using natural herbal ingredients such as neem powder, turmeric, multani mitti, sandalwood powder, gram flour, orange peel powder, rose petal powder, and aloe vera powder. The prepared formulation was evaluated for various physicochemical and cosmetic parameters

to determine its suitability for topical application.

The herbal face pack powder was found to possess a uniform greenish-brown color with a pleasant characteristic herbal odor. The texture of the formulation was smooth, soft, and free from coarse particles, indicating proper sieving and uniform mixing of all ingredients. The prepared powder showed good homogeneity and spreadability, which ensured easy application on the skin surface.

The pH of the formulation was found to be near neutral and compatible with skin, making it safe for topical use. The irritancy test showed no signs of redness, itching, inflammation, or discomfort on the skin, indicating that the prepared formulation was non-irritant and suitable for regular use.

The formulation exhibited excellent washability and could be removed easily with normal water without leaving any residue on the skin. The presence of multani mitti effectively absorbed excess oil and impurities from the skin surface, while neem and turmeric provided antimicrobial and anti-inflammatory effects helpful in controlling acne and pimples.

Orange peel powder and rose petal powder improved skin freshness and glow, whereas aloe vera helped in moisturizing and nourishing the skin. Sandalwood powder imparted a cooling and soothing effect, reducing skin irritation and providing relaxation.

The stability study indicated that the prepared herbal neem face pack powder remained stable during storage without any noticeable change in color, odor, texture, or appearance. This demonstrated good physical stability of the formulation when stored in an airtight container.

Overall, the prepared herbal neem face pack powder showed satisfactory evaluation results and proved to be a safe, stable, economical, and effective herbal cosmetic formulation for skincare management. The formulation can be beneficial in cleansing, nourishing, refreshing, and protecting the skin naturally with minimal side effects compared to synthetic cosmetic products.

VI. CONCLUSION

The present study successfully formulated and evaluated a Herbal Neem Face Pack Powder using natural herbal ingredients such as neem, turmeric, multani mitti, sandalwood powder, gram flour, orange

peel powder, rose petal powder, and aloe vera powder. The prepared formulation was found to possess good cosmetic and therapeutic properties suitable for skincare applications.

The evaluation studies demonstrated that the herbal face pack had acceptable color, pleasant odor, smooth texture, good spreadability, easy washability, proper homogeneity, skin-compatible pH, and good stability. The formulation did not produce any signs of irritation or adverse effects on the skin, indicating its safety for topical use.

Neem played a major role in providing antibacterial, antifungal, and anti-inflammatory effects that are beneficial in reducing acne, pimples, and skin infections. Other herbal ingredients enhanced the cleansing, cooling, moisturizing, nourishing, and skin-brightening properties of the formulation. The face pack effectively removed excess oil, dirt, and dead skin cells while improving skin freshness and glow.

From the overall results, it can be concluded that the prepared Herbal Neem Face Pack Powder is a safe, effective, economical, and natural cosmetic formulation for maintaining healthy skin. The study also supports the growing importance of herbal cosmetics as a better alternative to synthetic cosmetic products due to their minimal side effects and excellent therapeutic benefits.

REFERENCE

- [1] K. Biswas, I. Chattopadhyay, R. K. Banerjee, and U. Bandyopadhyay, "Biological activities and medicinal properties of Neem (*Azadirachta indica*)," *Current Science*, vol. 82, no. 11, pp. 1336–1345, 2002.
- [2] P. P. Sharma, *Cosmetics – Formulation, Manufacturing and Quality Control*, 4th ed. Vandana Publications, 2010.
- [3] C. D. Kaur and H. C. Kapoor, "Antioxidants in fruits and vegetables – the millennium's health," *International Journal of Food Science and Technology*, pp. 703–725, 2001.
- [4] M. S. Balsam and E. Sagarin, *Cosmetics: Science and Technology*, 2nd ed. Wiley-Interscience Publication, 1972.
- [5] C. K. Kokate, A. P. Purohit, and S. B. Gokhale, *Pharmacognosy*, 54th ed. Nirali Prakashan, 2018.
- [6] J. Ali and S. Sharma, "Herbal cosmetics and

- cosmeceuticals,” *International Journal of Research in Ayurveda and Pharmacy*, vol. 2, no. 5, pp. 1408–1412, 2011.
- [7] D. Chanchal and S. Swarnlata, “Novel approaches in herbal cosmetics,” *Journal of Cosmetic Dermatology*, vol. 7, pp. 89–95, 2008.
- [8] S. Kumar, R. Malhotra, and D. Kumar, “Neem and its constituents in cosmetics and dermatological preparations,” *International Journal of Pharmaceutical Sciences Review and Research*, vol. 7, no. 2, pp. 1–7, 2011.
- [9] S. Pandey, N. Meshya, and D. Viral, “Herbs play an important role in the field of cosmetics,” *International Journal of PharmTech Research*, vol. 2, no. 1, pp. 632–639, 2010.
- [10] N. Khanna, “Turmeric – Nature’s precious medicine,” *Asian Journal of Pharmaceutical and Clinical Research*, vol. 2, no. 4, pp. 1–10, 2009.
- [11] National Center for Biotechnology Information (NCBI), “Information regarding medicinal properties of neem and herbal ingredients.”
- [12] World Health Organization (WHO), “Traditional Medicine – Information on herbal medicines and traditional healthcare systems.”
- [13] *Encyclopaedia Britannica*, “Neem Plant Information – Botanical and medicinal information about neem plant.”
- [14] *Indian Journal of Pharmaceutical Sciences*, “Research articles related to herbal formulations and cosmetics.”
- [15] PharmaTutor, “Educational information regarding herbal cosmetics and pharmaceutical formulations.”