



## FORMULATION AND EVALUATION OF HERBAL NEEM FACE PACK

Sudarshan Balasaheb Kakad\*, Mahesh Hari Kolhe and Tushar Pradip Dukre

Pravara Rural College of Pharmacy, Pravaranagar.

Article Received on  
28 Jan. 2019,

Revised on 18 Feb. 2019,  
Accepted on 11 March 2019

DOI: 10.20959/wjpps20194-13457

**\*Corresponding Author**

**Sudarshan Balasaheb**

**Kakad**

Pravara Rural College of  
Pharmacy, Pravaranagar.

### ABSTRACT

The objective this work is to formulate and evaluate an herbal face pack for cosmetic purpose from herbal ingredients like Neem as main active ingredient and other natural ingredient like *Aloe vera*, Green tea leaves, Fuller's earth, turmeric and rose water. Five different formulation of face pack were formulated and evaluated for physical parameter irritation studies and for stability studies and all formulation show good physical properties. We conclude that the present study of Neem containing face pack is a good product for human use and further studies are needed to know the possible benefits of the face pack.

**KEYWORDS:** Face Pack, Neem, Cosmetics, Turmeric etc.

### INTRODUCTION

Phytochemical constituents of plant origin that are use in formulation of safe and effective skin cleansers have enormous therapeutic and economical potential.<sup>[1]</sup> They are effective in removal of most of pathogen for human skin so as to avoid transmission of various infectious diseases. Also they may reduce many side effects that are often associated with skin irritant synthetic antibacterial.<sup>[2,3]</sup>

Cosmetics are substances or products used to enhance or alter the appearance of the face or fragrance and texture of the body. From the ancient time, different herbs are used for cleaning, beautifying and to manage them. Face skin is the major part of the body, which indicates the health of an individual. This herbal paste smeared on face to treat acne, pimple, scars, marks and pigments.<sup>[4]</sup> 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. They are usually left on the skin for fifteen to thirty minutes to allow all the water to evaporate, the resulting film thus contracts and hardens and can easily be removed. When the applied face pack is eventually removed skin debris and deposited dirt gets removed with it.<sup>[5]</sup> Herbal face packs increase the fairness and smoothness of skin. We can derive the maximum benefits of herbal face packs by using them according to our skin type. The study of Neem and *Aloe vera* face pack examined to the enhancement of beauty. It consists of materials such as amino acids, lipids and carbohydrates etc. so that balanced nutrition is required for the skin to keep it clear, glossy and healthy. It is antibacterial and antifungal face pack which used in some skin problem like acne, scars and breakouts. This herbal face pack containing aqueous extract of Neem leaves Turmeric and *Aloe vera* and use rose water for smooth hydrating skin. Effect of face pack generally temporary and for regular glow you should use 2-3 times a week. The face pack should be applied clean skin.

### **Benefits of Applying Face Pack**

1. Nourishes the skin. Fruit face packs supply essential nutrients to skin.
2. Helps to reduce, acne, pimple, scars and marks depending on its herbal ingredients. Usually face packs made of neem and tulsi help to reduce acne and pimple. Face packs which are recommended for acne, pimple, black heads usually control the over discharge of sebum from sebaceous glands and remove the harmful bacteria inside acne lesion. The scars and marks of skin can be reduced by adding fine powder of sandal, rose petals and orange lentils with acne face pack.
3. Face packs usually remove dead cells of skin.
4. These face masks provide a soothing and relaxing effect on skin.
5. They help to restore the lost shine and glow of skin in short span of time.
6. Regular use of natural face masks bring glow to skin, improve skin texture and complexion.
7. The harmful effects of pollution and harsh climates can be effectively combated with judicious use of face packs.
8. They help to prevent premature aging of skin.
9. Formation of wrinkles, fine lines and sagging of skin can be effectively controlled by using natural face packs.
10. Natural face packs make the skin look young and healthy.<sup>[6,7]</sup>

### Precautions to be Taken While Applying Face Pack

1. Select the face pack according to your skin type. Take opinion of natural therapist or concerned skin expert before applying face pack.
2. The face pack should not be left on face more than 15 to 20 minutes. Keeping for very long time may result in formation of wrinkles, sagging of skin and enlargement of open pores. • Apply face pack once in a week.
3. Don't try to peel or scratch the dried face pack. This may harm underlying skin. Spray water (which is at room temperature) on face before removing dried face pack. After removing the mask, roll an ice cube on facial skin. This helps to close open pores and tightens skin. It also tones and soothes the skin.
4. Do not scrub face vigorously. This may result in eruption of pimples and dark spots. Stay away from heat when you have applied face pack.<sup>[6,7]</sup>

### MATERIALS AND METHODS

All natural ingredients i.e. Green tea, Turmeric rhizomes, Fuller earth and rose water purchased from local market and Neem and *Aloe vera* are collected from botanical garden.

Drug	Biological Source	Chemical Constituents	Use
Neem	Leaves of <i>Azadirachta Indica</i> Family- Meliaceae	Azadirachtin, Ascorbic acid	Antiseptic, Antifungal
Aloe vera	Leaves of <i>Aloe barbabensis</i> Family- Liliaceae	Barbaloin, Aloe emodin	Antimicrobial, Antiwrinkle
Turmeric	Fresh rhizomes of <i>Curcuma longa</i> Family- Zingiberaceae	Zingiberene, Curcumin	Antioxidant
Fuller's earth	Clay of Fuller's earth	Aluminium silicate	Absorbent
Green tea	Leaves of <i>Camellia sinensis</i> Family- Theaceae	Catechins, Caffeine	Preservative, Antioxidant

### Preparation of face pack

Sieve all ingredients in sieve no. 120 such as Turmeric, Neem and Fuller earth. Grind *Aloe vera* and Neem extract in it. In above mixture add Turmeric and Fuller's earth. Then add suitable preservative and flavoring agent. Store in well closed container.

Sr.No	Ingredients	Quantity(%w/w)	Uses
1	Neem	20%	Antibacterial
2	Aloe vera	20%	Antiwrinkle
3	Turmeric	4%	Antioxidant
4	Fuller earth	10%	Cleansing agent
5	Green tea leaves	2%	Preservative
6	Perfume	2%	Fragrance
7	Pack base	Q.S	Base

## Evaluation of face pack

The prepared face pack were evaluated for following parameter.

### 1. Physical Parameter

All formulations were evaluated for physical parameter like color, odour, pH, consistency and feel.

### 2. Patch Test

Non-irritancy of the preparation is evaluated by patch test. This test is performed to evaluate the safety of face packs on application. Even though the formulations contain all natural ingredients, from the safety point of view we performed this test for three parameters i.e., Primary irritation test, Delayed hypersensitivity and Photo irritation or allergy and the procedure for all test is as follows.

#### 2.1 Primary

In this test 24 human volunteers are selected. Definite quantities of prepared face packs were applied on the back or volar forearm region for 30 days. Prior to the application of face pack any designs of irritation observed are noted down.

#### 2.2 Delayed Hypersensitivity

Delayed hypersensitivity test is performed with the same procedure as in primary irritation test by increasing the application time and observance time. After washing of face pack from the skin the reactions were measured for 2 Hrs of time and noted down.

#### 2.3 Photo Irritation/ Allergy

Some ingredients may produce an allergic reaction only when exposed to light (usually UV). This test is aimed to know the possible photo allergic reactions of the prepared face packs on exposure to sun light on application. All the formulated face packs were applied as in the Primary irritation test and the individuals are asked to expose themselves for sun light and

possible reactions in the terms of itching, allergy, irritation and signs of redness after washing is measured and noted down.

### 3. Stability Studies

The prepared formulations are subjected to stability studies by storing at different temperature conditions for the period of one month. All the formulations were packed in glass vials separately and stored at different temperature conditions viz., room temperature, 35°C and 40°C and were evaluated for physical parameters like Color, Odor, pH, Consistency and feel.

## RESULTS AND DISCUSSION

All formulation showed free flowing. The prepared formulation show slight green color. Prepared formulation has acceptable odor which is desirable as cosmetic formulations. The pH of formulation lie is in the range of 6.5-6.9 which is near to neutral. During stability study change in pH was observed which are stored at 40°C and we found that at room temperature and at 35°C formulations do not show changes in pH.

## CONCLUSION

It can be concluded from the evaluation by pH and spreadability our formulation passes all positive test. In this formulation shows antibacterial properties which regulates, excess oil secretion, clear clog pores and it enhances natural glow to your face. Advantage of this face pack is that does not cause any irritation on skin, hence it is antibacterial (face pack).

## REFERENCES

1. Hiremanth SR. Text book of Industrial pharmacy, Drug delivery systems & Cosmetics & Herbal drug technology: Universities press (India) Ltd; 2<sup>nd</sup> Edition.
2. Okereke JN, Udebuani AC, Ezeji EU, Obasi KO, Nnoli MC. Possible Health Implications Associated with Cosmetics: A Review, *Sci J Public Health*, 2015; 3(5-1): 58-63.
3. Mary P. Lupo. Antioxidants and Vitamins in Cosmetics. *Clin Dermatol*, 2001; 19: 467-473.
4. Millikan, Larry E. Cosmetology, Cosmetics, Cosmaceuticals: Definitions and Regulations. *Clin Dermatol*, 2001; 19(4): 371-374.
5. Rieger MM. Harry's Cosmeticology. In: Chapter 23, Face, Body & Hair Masks & Scrubs. 8<sup>th</sup> ed. vol I. New York: Chemical Publishing Co., Inc., 2009; 471-483.

6. Deep Chanchal; Saraf Swarnlata. Herbal Photoprotective Formulations and their Evaluation, the Open Natural Products Journal, 2009; 2: 71-76.
7. Mandeep Singh; Shalini Sharma; Sukhbir Lal Khokra; Ram Kumar Sahu; Rajendra Jangde, Preparation And Evaluation Of Herbal Cosmetic Cream; Pharmacologyonline, 2011; 1258-1264.