



FORMULATION AND EVALUATION OF ANTI-AGING FACE PACK USING HEMIDESMUS INDICUS

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Abstract: Herbal face pack is a preparation use by human beings in the treatment of various skin problems. Everyone wants to get fair and charming skin. Human skin has become more sentient for faster aging atopic dermatitis, acne and many more skin related problems. These problems mainly arise due to increased pollution or using chemical components. Aging and acne are common problem arising in various people. Natural remedies are more acceptable in belief that they are safer and having less side effect than synthetic ones. Herbal formulation having more demand among the population. Herbal face pack supplies necessary nutrients to skin. Herbal face packs were mainly used for improving blood circulation and to maintain the structure and flexibility of skin. Antioxidants have the potential to prevent ageing. In the present work it is a great effort to formulate and evaluate an anti-ageing herbal face pack from herbal ingredients such as hemidesmus indicus, sandalwood, fullers earth, turmeric, papaya were collected from market as well as from home. The ingredients having anti-aging, antioxidant activity. The ingredients were thoroughly washed, shade dried, powdered and passed through sieve no 100. The face pack were prepared and evaluated for various parameters like organoleptic, irritancy, pH, flow property, washability. The face pack powder shows good flow property. Hence in the present work, we found good excellent results of the face pack.

Key words- Anti-aging, Herbal face pack, Hemidesmus Indicus, Skin care

1. Introduction:

1.1 Skin aging:

Signs of aging become clearer as life progresses. Changes in skin appearance and texture are one of the first evidences which indicates the beginning of aging process ^[1]. Whitening or graying of the hair is another obvious sign of aging. Skin changes are related to environmental factors, genetic makeup, nutrition, and other factors. The greatest single factor, though, is sun exposure. Blue-eyed, fair-skinned people show more aging skin changes than

people with darker, more heavily pigmented skin. With aging, the outer skin layer (epidermis) thins, even though the number of cell layers remains unchanged. The number of pigment-containing cells (melanocytes) decreases. The remaining melanocytes increase in size [2].

Aging is caused by combination of endo-native factors (such as genetic alterations, cellular metabolism, and hormonal environment) and external factors (such as chemicals, toxins, pollution, UV radiation, and ionizing radiation). These aging processes are accompanied by phenotypic changes in cutaneous cells and the systematic and functional changes in the extracellular matrix components (such as collagens, elastin, and proteoglycans) which are required to provide minimal strength, elasticity and hydration to the skin, respectively [1].

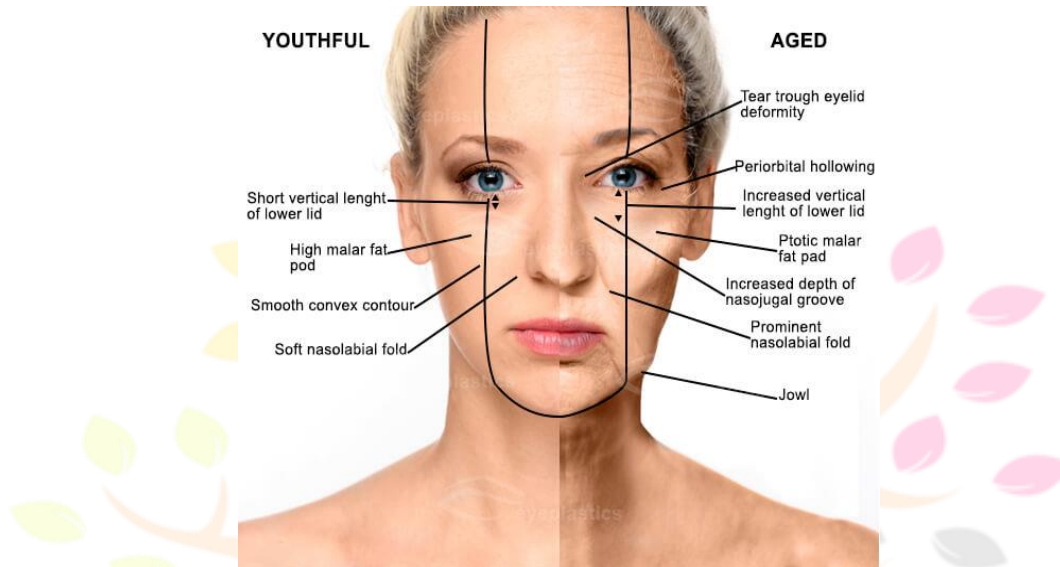


Fig no.1: Skin aging

1.2 Wrinkles:

Wrinkles are creases, folds, or ridges in the skin. They naturally appear as people get older. The first wrinkles tend to appear on a person's face in areas where the skin naturally folds during facial expressions. They develop due to the skin becoming thinner and less elastic over time. Wrinkles also tend to appear on parts of the body that receive most sun exposure, such as the face and neck, back of the hands, and arms. Wrinkles are a natural part of growing older, and they affect everyone. This article looks at why people get wrinkles, what causes them, and what increases their appearance. It also looks at some methods that people use to reduce wrinkles, some of which are more effective than others. As people get older, their skin becomes thinner, drier, and less elastic, which means it is less able to protect itself from damage. This leads to wrinkles, creases, and lines on the skin. Facial expressions, such as smiling, frowning, or squinting, lead to the development of fine lines and wrinkles at a young age. These lines deepen as the person gets older.

Many factors affect the development of wrinkles, including:

- sun exposure
- smoking
- dehydration

- some medications
- Environmental and genetic factors ^[2].



Fig no.2: wrinkles

1.3 Anti-aging / Anti- Wrinkles:

Several topical preparations are used which are effective toward to reduce the aging or wrinkle. Anti-aging and anti-wrinkle processes may be done by reducing the activities of hyaluronidase, elastase, or collagenase. Some of the naturally occurring photo-protective compounds may also help to reduce the irradiation effect and hence reduces aging process^[1].

1.4 Face Pack:

Face pack is a smooth powder with natural constituents which are rich in vitamins, antioxidants and are used for facial application for a healthy and glowing skin. 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 warmth and tightening effect produced by application of face pack produces the stimulating sensation which helps rejuvenation of the face, while the colloidal and adsorption clays used in these preparations remove the pollutants, dirt, and grease from the skin of the face. When the face pack is applied it eventually removes skin debris and deposited dirt gets washed off with it ^[3].

Ayurvedic face packs can help minimize creases, blemishes, acne, and eye bags. They also improve the skin's attractiveness and suppleness. Homemade facial packs are easier to use it and lesser complex. The benefits of the face packs are usually transient, and they must be used 2–3 times each week for a consistent glowing. ^[4]



Fig no.4: Face Pack

➤ **Ideal Characteristics of Face Pack ^[5] :**

- ✓ It should be non-irritating and nontoxic.
- ✓ They should produce a sensation of tightening of the skin after application
- ✓ It should be stable both physically and chemically.
- ✓ It should be free from gritty particles.
- ✓ It should have pleasant odor

➤ **Benefits of applying face pack ^[6]:**

- ✓ Nourishes the skin.
- ✓ Helps to reduce, acne, pimple, scars and marks depending on its herbal ingredients.
- ✓ Face packs usually remove dead cells of skin.
- ✓ These face masks provide a soothing and relaxing effect on skin.
- ✓ They help to restore the lost shine and glow of skin in short span of time.
- ✓ Improve skin texture and complexion.
- ✓ 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.
- ✓ Formation of wrinkles, fine lines and sagging of skin can be effectively controlled by using natural face packs.
- ✓ Natural face packs make the skin look young and healthy.

2. Ingredients profile:

S.no	Ingridients	Use	Figure
1.	Indian Sarsaparilla (Hemidesmus indicus)	anti-aging ingredient, treat acne, nourishment, Melanin generation inhibitor.	
2.	Sandalwood (Santalum album)	anti-aging, anti-tanning effect , treat scars and relieves skin irritation, skin glowing & bright.	
3.	Papaya leaf (Carica papaya)	anti-oxidant property , prevent skin damage, Removal of dead skin cells, prevent acne.	
4.	Turmeric (Curcuma longa)	rejuvenate the skin, antioxidant, blood purifier, reduces oil secretion.	
5.	Fuller's Earth (Calcium bentonite)	Fight against acnes and pimples, Remove excess sebum and dirt, Even out skin tone and brighten complexion, Treat tanning and pigmentation Tighten the saggy skin.	

3. Material and Method:

3.1 Material:

All the Excipients are used in this formulation have herbal grade. All the excipients are procured from different Sources. The Hemidesmus indicus powder was procured from Indian Agri Farm. The turmeric powder was procured

from Indus organics, papaya leaves powder procured from Annapurna agro export, Sandalwood powder was procured from organic india. Fullers' earth was procured from Indus valley.

3.2 Method of preparation:

All the herbal ingredient are in dry form and grinded to make fine powder by using size reduction mill. Weighing all the required herbal powder for preparation were accurately weighed individually by using digital balance. All these fine ingredients were mixed thoroughly by mixer to form a homogenous fine powder. Then this fine powder was passed through sieve no.100, to get the sufficient quantity of fine powder. The powder mixture was collected and store in a suitable plastic container and used for evaluation parameter. All the formulation of Batches are given in table no.1

S. No.	Ingredients	F1 (gm)	F2 (gm)	F3 (gm)	F4 (gm)
1	Hemidesmus indicus	10	10	10	10
2	Sandalwood powder	15	13	14	12
3	Papaya leaf powder	7	8	9	8
4	Turmeric	2	3	4	5
5	Fuller's Earth	16	16	13	15

Table no.1: Composition of Herbal face pack

4. Evaluation:

Following evaluation parameters were preferred to ensure superiority of prepared face pack.

4.1. Organoleptic evaluation:

The organoleptic parameters include its nature, color, odor, feel and consistency which were evaluated manually for its nature, odor, feel and consistency which were evaluated manually for its physical properties.

4.2. Irritancy test:

Mark an area of 1sq.cm on the left hand dorsal surface. A definite quantity of prepared face packs was applied to the specified area and time was noted. Irritancy, was checked if any for regular intervals up to 24 hrs. and reported.

4.3 Determination of moisture content:

Weigh about 1.5gm of the powdered drug into a weighed flat and thin porcelain dish. Dry in the oven at 100 degree C at 105 degree C, until two consecutive weights do not differ by more than 0.5 mg cool in desiccators and weigh. The loss in weight is usually recorded as moisture.

4.4 Washability:

This is the common method for checking the wash ability of the formulation. The formulation was applied on the skin and then ease and extend of washing with water were checked manually by using 1 litre of water is used to remove all content of the formulations were applied on the surface.

4.5 Physical Evaluation:

The flow property of the dried powder of combined form was evaluated by performing Angle of Repose by funnel method, Carr's index, Hausner's ratio, bulk density and tapped density by Tapping Method.



5. Result and Discussion:



Fig.5: Diagram of formulations F1, F2, F3, F4

5.1 Organoleptic evaluation results:

S.NO.	Parameters	Observations			
		F1	F2	F3	F4
1	Color	Pale green	Sand	Dusky Brown	Cream
2	Odour	Slight	Slight	Slight	Slight
3	Appearance	Free flowing Powder	Free flowing Powder	Free flowing Powder	Free flowing Powder
4	Texture	Fine	Fine	Fine	Fine

Table no.2: Organoleptic evaluation result

5.2 Washability, pH and Irritancy results:

S.NO.	Parameters	Observations			
		F1	F2	F3	F4
1	washability	Easily washable			
2	Irritancy	Nil			
3	pH	5.8	5.7	5.9	6.0

Table no.3: Washability, pH and Irritancy result.

5.3 Physical evaluation results:

S.NO.	Parameters	Observations			
		F1	F2	F3	F4
1	Tapped density	0.765 gm/cc	0.623 gm/cc	0.567 gm/cc	0.652 gm/cc
2	Bulk density	0.554 gm/cc	0.421 gm/cc	0.398 gm/cc	0.493 gm/cc
3	Angle of repose	260	23.260	210	240
4	Car's index	18	23	14	16
5	Hausner's ratio	1.43	1.35	1.12	1.26

Table no.4: Physical evaluation results

6. Conclusion:

Herbal face packs or masks are used to stimulate blood circulation, rejuvenates the muscles and help to maintain the elasticity of the skin and remove dirt from skin pores. Natural medicines are more acceptable since they are believed to be safer and have less adverse effects than synthetic therapies. In the global market, herbal formulations are in high demand. Thus, we tried to formulate a herbal face pack complying to all the guidelines suggested by the literature although additional optimization studies are required to uncover the beneficial properties. Among different batches Formulation F3 was found to be most satisfying in terms of physicochemical evaluation as of trial and error basis. So the findings in our report suggested the beneficial use of different herbs involved in it and also opens up a window for better herbal alternative with least possible hazard as of now, still further studies are required for its use in humans.

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