

Fabrication and Characterization of Vegetal face pack for Laudative Corium

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Abstract— The objective of this work is to formulate and evaluate herbal face pack for glowing skin by using herbal ingredients with the varying concentration four different formulation containing ingredients such as Multanimitti, Turmeric, Clove, Ashwagandha, Aloe vera, Orange peel and Camphor; Were prepared named as F1 to F4. All prepared formulation were evaluate by different parameters like organoleptic property, physical property, physiochemical property, irritancy test, stability test and microbial load test. Among all formulation, F4 was found to be good in physical parameters free from skin irritation and maintained it's consistency even after stability storage condition and also having microbiological stability.

Index Terms: Cosmetics, Evaluation, Face pack, Herbs, Skin.

I. INTRODUCTION

Cosmetic Science is a multidisciplinary applied science. Cosmetic science majors study the art, science and business of cosmetics. Cosmetics are used regularly and universally in different forms to enhance beauty. Skin care cosmetics treat the surface layer of the skin by providing better protection against the environment than skin left untreated.^[1] There is an increasing demand for facial skin care cosmetics. According to data monitor, global spending on skin care products in 2012 was 82 billion \$, where two-thirds of spending comprised facial skin care. A report by research and markets, expects the global skin care products industry revenue to cross 100 billion \$ in 2018. The increasing demand for anti-aging products and growing concern for the use of natural and organic skin care products are the major factors driving the skin care industry. The importance of cosmetics has increased as many people want to

stay young and attractive. Cosmetics are readily available today in the form of creams, lipstick, perfumes, eye shadows, nail polishes, hair sprays etc. 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.[1]

II. AIM

In ancient times, women were very conscious about their beauty and took special care of their specific skin types. Even today, people especially in rural areas, and hilly regions go for the natural remedies like plants extracts for various cosmetics purposes like aloe vera, ashwagandha, orange peel, turmeric etc. Herbal cosmetics are the products which are used to purify and beautify the skin. The main advantage of using herbal cosmetic is that it is pure and does not have any side effects on the human body. People have rough skin and when they don't take sufficient care, then the skin turns dark due to overexposure to the sun, other pollutants etc.[2]

This face pack has natural skin lightening property and can be easily prepared at home. Face packs with natural constituents are rich in vital vitamins that are essential for the health and glow of the skin. These substances have been proven to be beneficial for skin in many ways. Natural facial packs are easy to use. They increase the circulation of the blood within the veins of the face, thereby increasing the liveliness of the skin. A good herbal face pack must supply necessary nutrients to the skin, available in the form

of free-flowing applied facially for the external purpose.[3]

III.OBJECTIVE

The aim of this work is to formulate and evaluate an herbal face pack for glowing the skin by using natural herbal ingredients. The natural herbal ingredients such as multanimitti, turmeric, aloe vera gel powder, clove, ashwagandha, orange peel powder, camphor.

The prepared face pack must be free from skin irritation and maintained its consistency even after stability storage conditions. Results of the study scientifically verified that herbal face pack having enough potential to give efficient glowing effect on skin.[4]

IV.MATERIALS AND METHOD

PLANT MATERIAL

Present research article deals with the formulation and evaluation of herbal face pack for glowing skin by using natural ingredient i.e., multanimitti, turmeric, aswagandha, clove, aloe vera, camphor and orange peel. They were purchased from local market in raw form and after that it will dried and grinded into fine powder form. The details of the natural ingredient used for the formulation of herbal face pack are mentioned below.

MULTANI MITTI

Multanimitti helps skin by different ways like diminishing pore sizes, removing blackheads and whiteheads fading freckles, soothing sunburns, cleansing skin, improving blood circulation, complexion, reducing acne and blemishes and gives a glowing effect to a skin as they contain healthy nutrients. Multanimitti is rich magnesium chloride.

TURMERIC

Turmeric is mainly used to rejuvenate the skin. It delays the signs of aging like wrinkles and also possesses other properties like antibacterial, antiseptic and anti-inflammatory. It is best source of blood purifier. It is effective in treatment of acne due to its antiseptic and antibacterial properties that fight pimples and breakouts to provide a youthful glow to your skin. It also reduces the oil secretion by the sebaceous glands.[5]

CLOVE

Clove oil helps in reducing the sagginess of the skin and prevents the appearance of fine lines and wrinkles. It is a powerful anti-aging ingredient used in most cosmetics. It removes the dead skin cells and helps in blood circulation, which indirectly or directly ensures a youthful and radiant looking skin. Clove oil helps in lightening face marks and blemishes. Applying clove oil regularly helps in making your skin clear and even-toned.

ASHWAGANDHA

Ashwagandha is effective and promotes a healthy skin and lifestyle. Ashwagandha is rich in bio-active principles such as withanolides, saponins and alkaloids which deeply cleanse, moisturize and calm the skin. Ashwagandha contains antioxidants that deal with free radicals to make you feel youthful. When it is applied topically to the skin, it soothes the skin, makes it brighter, and increases cellular energy of the skin.[6]

ALOE VERA

Aloe vera gel is made up of 80% water, coupled with a lot of vitamins, nutrients and minerals, all of which work to make your skin appear really soft and glowing. Aloevera is a great moisturizer intended for a skin. Aloe vera rejuvenates skin, hydrates this and keeps skin layer looking fresh all the time. Aloe vera has anti-microbial property rendering it ideal to deal with acne and pimples. Aloe vera powder contains several nutrients like glycerin, sodium palmate, sodium carbonate, sodium palm kemelate, sorbitol, etc.

ORANGE PEEL

Orange is a citrus fruit which contains different nutritional source such as vitamin C, calcium, potassium and magnesium. It prevents the skin from free radical damage, skin hydration and oxidative stress. Also it has instant glow property, prevent acne, blemishes, wrinkles and aging. The peel has anti-bacterial and anti-microbial properties which make it great for treating acne and oily skin.[7]

CAMPHOR

Camphor used to relieve skin irritation and itchiness and may help to improve the overall appearance of skin.[8]

V.METHOD OF PREPRATON

Collect the raw material and grinded into fine powdered form. The powdered dried natural ingredients were sieved separately using #160 mesh, four different formulations were prepared with varying concentration of all ingredients named as F1 to F4. Concentration of each ingredients was mentioned in Table 1. And all ingredients were mixed geometrically by serial dilution method for uniform mixing. Then the powdered face pack was packed into a self sealable poly ethylene bag, labelled and used for farther evaluation studies.

Table 1: Formulation of face pack (Quantity of sample for 100g)

Sl No	Ingredients	F1	F2	F3	F4
1	Multanimitti	35	40	50	45
2	Turmeric	20	5	4	4
3	Clove	13	15	12	10
4	Ashwagandha	9	10	12	15
5	Aloe vera	10	15	12.5	10
6	Orange peel	12	14	8	15
7	Camphor	1	1	1.5	1

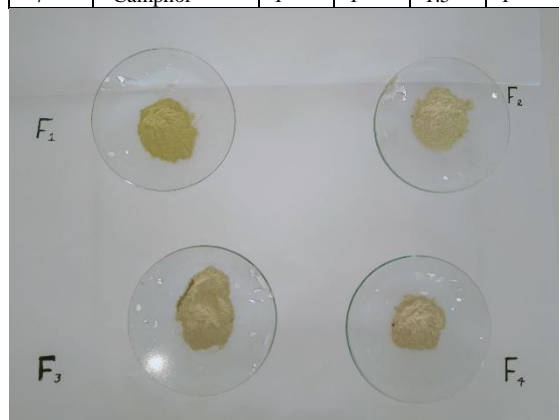


Figure 2: Four types of formulations

VI. PROCEDURE FOR FACE PACK APPLICATION

Take prepared face pack powder in a bowl as per the requirements and add rose water or water for oily skin and milk for dry skin. Mix well and apply over the facial skin. Cover the acne and blemishes spots too. Kept as it is for complete drying for 25 to 30 minutes and then wash with cold water.

VII. METHOD OF EVALUATION

Formulations are a very important aspect of creating medicines, since they are essential to ensuring that the active part of the drug is delivered to the correct

part of the body, in the right concentration, and at the right rate. [9]

Following evaluation parameters were performed to ensure superiority of prepared face pack

Organoleptic Evaluation

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

Physiochemical evaluation

physicochemical analysis is an important method of studying systems made up of two, three, or more components. These include ash value, pH etc [10]

Physical evaluation

The particle size was tested by microscopy method. The flow property of the dried powder was evaluated by performing Angle of Repose by funnel method, bulk density tapped density, Washability, Grittiness and tested the Face after wash.

Irritancy test

Mark an area on hands definite quantities of prepared face packs were applied to the specified area and time was noted. Irritancy, redness, swelling was checked if any for regular intervals up to 24 hrs and reported. And also Photo-irritation test (Presence of sun) was checked regular interval of 15 min. [11]

Stability studies.

Stability testing of prepared formulation was conducted by storing at different temperature conditions for the period of one month. The packed glass vials of formulation stored at different temperature conditions like, Room temperature, 35°C and 40°C and were evaluated for physical parameters like Color, Odor, pH, Consistency and feel. [12]

Determination of Microbial Load

The prepared formulation was evaluated for presence of gram negative pathogens such as E. coli, Salmonella and Pseudomonas by Agar plate method. [13]

VIII. RESULTS OF EVALUATION

Table 2: Organoleptic properties

Properties	F1	F2	F3	F4
Nature	powder	powder	powder	powder
Color	Yellow	Pale yellow	Pale yellow	Creamish yellow

Odour	Pleasant	Pleasant	Pleasant	Pleasant
Feel	Cooling with slightly burning	Cooling with burning	Cooling	Cooling
Appearance	Smooth and fine	Smooth and fine	Smooth and fine	Smooth and fine
Texture	Fine	Fine	Fine	Fine
Smoothness	Smooth	Smooth	Smooth	Smooth

Table 3: Physiochemical evaluation

Properties	F1	F2	F3	F4
Ash value	77.0%	78.7%	79.0%	77.4%
pH rate	7.4	6.8	6.5	6.9

Table 4: Physical evaluation

Properties	F1	F2	F3	F4
Particle size(µm)	22.7±1.5	24.8±1.5	26.1±1.5	23.5±1.5
Angle of repose	36.02 ⁰	36.53 ⁰	31.51 ⁰	29.59 ⁰
Bulked density	0.454g/ml	0.456g/ml	0.502g/ml	0.452g/ml
Taped density	0.61g/ml	0.65g/ml	0.66g/ml	0.62g/ml
Washability	Easily washable	Easily washable	Easily washable	Easily washable
Grittiness	Nil	Nil	Nil	Nil
Nature of face after wash	Soft and presence of stain	Soft and slight stain	Soft and clean	Soft and clean

Table 5: Irritancy test

Sl No	Parameters	F1	F2	F3	F4
1	Irritation	Yes	Yes	No	No
2	Redness	No	No	No	No
3	Swelling	Yes	No	No	No
4	Photo irritation test	Yes	No	No	No

Table 6: Stability study of formulation F4

Sl No	Parameter	Room temperature	35±0.5°C	40±0.5°C
1	Color	No change	No change	No change
2	Odour	No change	No change	No change
3	pH	6.9	6.7	6.8
4	Appearance	Smooth and fine	Smooth and fine	Smooth and fine
5	Texture	Fine	Fine	Fine
6	Smoothness	Smooth	Smooth	Smooth

Table 7: Microbial test for F4

SL.No	TEST	OBSERVATION
1	Gram negative pathogen (E.coli, Salmonella, Pseudomonas)	Absent

I. DISCUSSION

From the above observations, it has been notified that since the formulation is made up of naturally occurring dried herbal ingredients[14]. 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 and improve the blood circulation. When compared with other market available face pack the herbal cosmetics is non toxic nature, reduce the allergic reactions. It nourishes the facial skin. This facepack supplies vital nourishment to the skin. The different formulation of facepack was prepared and evaluated. The colors of formulation were different due to variation in composition of contents. Large amount of Turmeric show mild irritation and staining in the surface of skin after the wash. So best formulation is selected and which does not possess any irritation and staining.[15]

This formulation does not use any types of chemical, preservative, artificial color or perfume and the chances of its degradation are almost negligible. This leads to an increased shelf life with stable ingredients.

The formulation was found homogenous, easily washable and also had very slightly alkaline pH which were compatible with normal skin physiology. Angle of repose is a characteristic related to interparticulate friction or resistance to the movement between the particles. The flow property has been classified as per limit of Indian Pharmacopoeia in terms of the angle of repose. The results of all these parameters indicated that the dried powder of combined form possess good flow properties and good packing ability. Consequently, it exhibited good flow properties for formulation to achieve soft, fresh and clean formulation.

IX. CONCLUSION

Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have growing demand in the world market. In the present scenario, people need cure for various skin problems without side effects. It is a very good attempt to establish the herbal face pack containing different powder of plants. Thus in the present work, It is a very good attempt to formulate the herbal face pack containing naturally available ingredients like Multanimitti,

Turmeric, Alovera, orange peel, camphor, Ashwagandha After evaluation, we found good properties for the face packs, free from skin irritation and maintained its consistency even after stability storage conditions and the prepared formulation was physio-chemically and microbiologically stable.

The formulated face pack is much more better than chemical one, Because this face pack is formulated only by the use of natural substance

Herbal material is much safer than chemical substance.

The natural face packs are used for controlling premature aging to the skin, wrinkles, fine lines and loosening of skin. It has been revealed that herbal face pack having enough potential to give efficient glowing effect on skin. The overall study is useful to substantiate product claims due its useful benefits on the human beings

REFERENCE

[1] 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.

[2] Mary P. Lupo. Antioxidants and Vitamins in Cosmetics. *Clin Dermatol* 2001; 19: 467-473.

[3] Sowmya KV, Darsika CX, Grace F, Shanmuganathan S. Formulation & Evaluation of Poly-herbal Face wash gel. *World J Pharm PharmSci* 2015; 4(6): 585-588.

[4] Millikan, Larry E. Cosmetology, Cosmetics, Cosmeceuticals: Definitions and Regulations. *Clin Dermatol* 2001; 19 (4); 371-374.

[5] Rieger MM. Harry's Cosmeticology. In: Chapter 23, Face, Body & Hair Masks & Scrubs. 8th ed. vol I. New York: Chemical Publishing Co., Inc.; 2009. p. 471-483.

[6] <http://www.stylecraze.com/articles/5-ayurvedic-face-packs-for-glowing-skin>.

[7] <https://timesofindia.indiatimes.com/life-style/food-news/heres-how-clove-oil-is-beneficial-for-your-skin/articleshow/68181978.cms#:~:text=Clove%20oil%20helps%20in%20reducing,youthful%20and%20radiant%20looking%20skin>

[8] <https://www.herzindagi.com/beauty/clove-laung-oil-for-skin-acne-prone-skin-wrinkles-saggy-skin-article-158116>

[9] <https://www.forestessentialsindia.com/blog/ashwagandha-a-superfood-for-the-skin.html#:~:text=A%20super%2Dfood%20for%20the,moisturize%20and%20calm%20the%20skin>

[10] <https://bebodywise.com/blog/ashwagandha-the-miracle-herb-for-a-womans-skin/>

[11] <https://www.bebeautiful.in/all-things-skin/everyday/benefits-and-use-of-aloe-vera-gel-for-face>

[12] Rajeswari R, Umadevi M, Rahale CS, Pushpa R, Selvavenkadesh S, Sampath Kumar KP, Bhowmik D. Aloe vera: The Miracle Plant Its Medicinal and Traditional Uses in India. *J PharmacognPhytochem* 2012; 1(4): 118-124

[13] Himaja N, Ashok kumar A, Bhartkumar B. Preparation and Evaluation of Poly Herbal Fruit Face Mask. *J Res Pharm Sci* 2015; 2(11): 07-13.

[14] <https://food.ndtv.com/beauty/fruit-for-your-skin-5-home-made-orange-peel-face-packs-735763>

[15] <https://www.healthline.com/health/what-is-camphor>