

Formulation and evaluation of herbal face pack for whitening skin

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I. INTRODUCTION

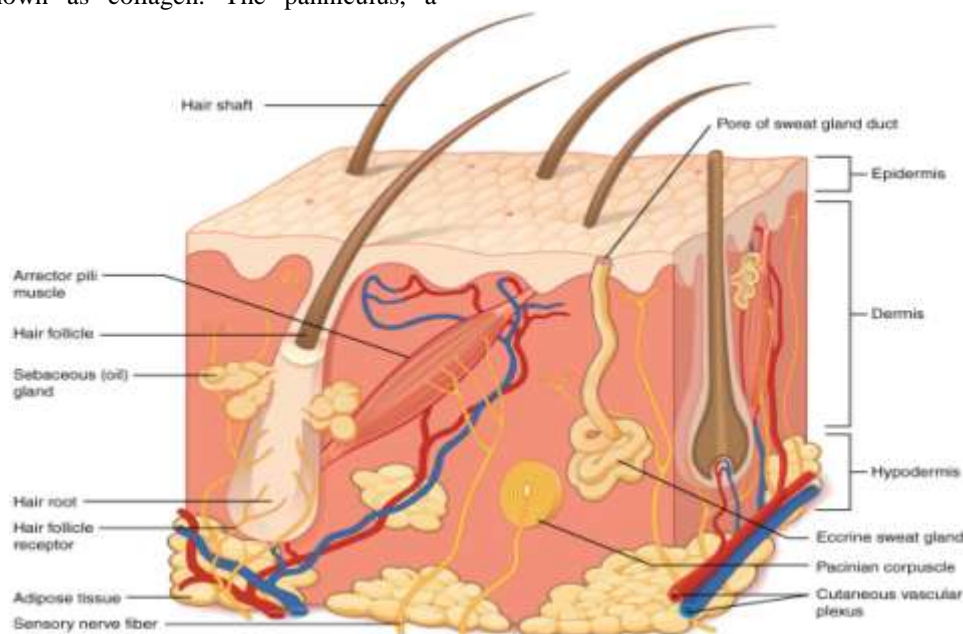
Physiology of Skin

The skin and its related structures make up the integumentary system. The epidermis, dermis, and subcutaneous tissue make up the three layers of the skin. The epidermis, which is the skin's outermost layer, is made up of keratinocytes, a particular group of cells that produce keratin, a long, thin protein that serves as protection.

The middle layer, the dermis, is fundamentally made up of the fibrillar structural protein known as collagen. The panniculus, a

subcutaneous tissue that contains tiny lobes of fat cells known as lipocytes, sits on top of the dermis.

The thickness of these layers varies substantially, depending on the geographic location on the anatomy of the body. The eyelid, for example, has the thinnest layer of the epidermis, measuring less than 0.1 mm, whereas the palms and soles of the feet have the thickest epidermal layer, measuring approximately 1.5 mm. The dermis is thickest on the back, where it is 30-40 times as thick as the underlying epidermis.



Face pack

Many herbs have been utilised for managing, cleaning, and adorning them since ancient times. The largest portion of the body that reveals someone's health is their face skin. The herbal paste known as "mukhalepa" is utilised as a face therapeutic in ayurveda. This herbal paste is

applied to the face to cure pigmentation, scars, markings, and acne. The smooth powder that is applied to the face is called a face pack. These solutions are applied to the face as pastes or liquids and then allowed to dry and harden into a film, which has the effect of tightening, nourishing, and cleaning the skin. To allow all the water to

evaporate, they are typically kept on the skin for fifteen to thirty minutes. After this time, the resulting film compresses, hardens, and may be readily removed. The face pack's warming and tightening effects give users the energising impression that their face has been revitalised, while the colloidal and adsorption clays utilised in these preparations clean the dirt and oil from their facial skin. Skin impurities and accumulated dirt are removed together with the applied face pack when it is eventually removed. The fairness and smoothness of the skin are improved by herbal face packs. By applying herbal face packs in accordance with the needs of our skin, we may maximise their advantages. These face packs improve skin radiance and are the greatest ayurvedic remedy for boosting fairness.

In the current study, natural ingredients such as multanimitti, turmeric, aloe vera, sandalwood, lemon peel, rose petal powder, manjistha, lodhra, and gramme flour were used in the development and evaluation of a herbal face pack for glowing skin at home.

Advantages

- Skin is nourish by this.
- Fruit facepacks give skin the nourishment it needs.
- relying on its herbal elements, helps to reduce acne, pimples, scars, and blemishes.
- Neem and tulsi face packs frequently assist to lessen acne and pimples. Facepacks that are suggested for acne, pimples, and black heads often regulate the excessive sebum discharge from sebaceous glands and eliminate the harmful bacteria inside acne lesions.

How to Use Herbal Face Packs

Cleanse your face: Start with a clean and dry face. Use a gentle cleanser to remove any makeup, dirt, or impurities from your skin. Mix the face pack: Follow the instructions on the face pack to mix the herbal ingredients with water, rose water, or other liquid to form a smooth paste. You can also add other natural ingredients like honey, yogurt, or milk for added benefits.

Apply the face pack: Using clean fingers or a brush, apply the face pack evenly to your face, avoiding the eye and lip areas. You can also apply it to your neck and décolletage if desired

Relax and wait: Leave the face pack on for the recommended time mentioned on the product

Precautions

- Select the face pack according to your skin type.
- Take opinion of natural therapist or concerned skin expert before applying face pack.
- 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. Don't try to peel or scratch the dried face pack.
- This may harm under lying skin. Spray water (which is at room temperature) on face before removing dried face pack.

II. MATERIALS AND METHODS

Present research article deals with the formulation and evaluation of herbal face pack for glowing skin by using natural ingredient i.e., orange peel, multanimitti, turmeric, sandalwood, neem, hibiscus. They were purchased from local market in the form of dried powder. PROCEDURE FOR PREPARATION

To get uniformly sized particles, each of the powdered materials was put through a sieve with a mesh size of 40 before being precisely weighed. To ensure homogeneous and even mixing, all powder ingredients were also combined geometrically. The created face pack was tested using several assessment criteria and kept in an airtight container.

HOW TO APPLY METHOD

Take 5 grammes of the powder mixture made up of neem leaves, orange peel powder, rose petal powder, multanimitti, and sandalwood. To create a smooth paste, add 3–4 ml of rose water or plain water. Apply this paste all over your face, then give it 10 to 15 minutes to dry. Gently scrape the pack off the skin once the powder has dried, then rinse it off with water.

When applied to skin in a gentle manner for a short period of time, the face pack also functions as a scrub.

ORANGE PEEL

It is made from orange peel extract that has been fried to powder form. It is high in vitamin C and other antioxidants. Vitamin C protects the skin from free radical damage and oxidative stress caused by UV radiation. It also has the ability to provide an immediate glow, function as a skin lightening agent, prevent acne blemishes, wrinkles,

and decrease the indications of ageing and sun tan. Further advantages of orange peel extract include the ability to unclog pores, remove blackheads, and cure acne. It has citric acid in it, which exfoliates.



FIG 2- Orange powder

MULTANI MITTI

Multani mitti benefits skin in a variety of ways, including reducing pore size, removing blackheads and whiteheads, fading freckles, soothing sunburns, cleansing skin, improving blood circulation, complexion, reducing acne and blemishes, and providing a glowing effect because it contains healthy nutrients. Multani mitti contains a lot of magnesium chloride. Multani mitti, which aids in the removal of impurities such as dead skin cells. It contributes to the skin's radiance.



Fig 2 -Multani Mitti

TURMERIC POWDER

Turmeric was employed in this recipe because of its blood purifying properties and antibacterial effect, which aids in wound healing. It treats skin conditions caused by blood impurities. It has anti-inflammatory and anti-allergic properties. It contains phytoconstituents, primarily terpenoids,

which assist to brighten the skin tone. Turmeric reduces the appearance of wrinkles and promotes skin suppleness. It eliminates pigmentation, uneven skin tone, and dullness. Haridra contains anti-inflammatory and anti-allergic properties.

It is an excellent blood cleanser and aids in wound healing. It has the finest blood cleansing activity and is utilised in all diseases caused by blood impurities. Haridra is a skin rejuvenator and revitalizer; it delays the indications of ageing such as wrinkles.



Fig 4 - Turmeric Powder

NEEM

Protein, carbohydrates, triterpenoids, flavonoids, alkaloids, minerals, calcium, phosphorus, vitamin C, and carotene are the main components of neem leaf. Neem possesses antibacterial, anti-inflammatory, and antifungal effects, among others.

Neem leaf powder aids in the treatment of skin conditions such as eczema and psoriasis. It also aids in the treatment of boils, prickly acne marks, scars, and other skin issues. It has antifungal, antimicrobial, and vitamin C qualities, making it ideal for persons with sensitive or oily skin. It also aids in the treatment of various skin issues such as blackheads, pigmentation, dullness and ageing, acne, and skin disorders.



Fig 5 - Neem powder

Rose Oil and Rose Petals Powder (*Rosa Indica*)

Rose petals are high in vitamins A, C, and K, which aid in the formation of collagen in the human body. Collagen keeps your skin tight and supple. Rose contains vitamin C as well. Skin tone is lightened and brightened, scars are faded, pores are minimised, and hyperpigmentation is reduced. The powder of rose petals has antimicrobial properties. Also, they produce a pleasant aroma and an aesthetic sensation upon application, which is preferred in the manufacture of cosmetics.

SANDALWOOD POWDER

Sandalwood contains anti-aging and anti-tanning properties. It also benefits the skin in a variety of ways, including toning, emollient, antibacterial characteristics, cooling astringent effects, relaxing, and healing capabilities. Sandalwood protects the skin from the effects of environmental pollutants, keeping it cool, fair, and healthy. Sandalwood is beneficial, Ayurveda herb with antibacterial characteristics is used to treat skin disorders and eliminate scars.



Fig 6 Sandalwood powder

HIBISCUS POWDER

Anthocyanins and polyphenols are active ingredients found in Hibiscus (protocatechuic acid and quercetin). Hibiscus flower contains phenolic chemicals that protect the skin, Against the damaging effects of free radicals and aids in the reduction of oxidative stress produced by UV radiation and other causes like as pollution, stress, and an unhealthy lifestyle. Hibiscus is a natural source of alpha-hydroxy acids (AHAs). This exfoliates your skin and reduces hyperpigmentation and blackheads while improving skin texture. The antioxidants in hibiscus powder assist decrease skin irritation caused by acne or other skin issues

EVALUATION

Prepared face pack was evaluated using following parameters to ensure supremacy of prepared face pack:

Organoleptic Evaluation The prepared face pack was evaluated for various organoleptic parameters such as; colour, odour, appearance, texture and consistency. Colour, odour and texture were evaluated visually by touch and sensation respectively.

Rheological Evaluation It involved evaluation of powder characteristics. The sample was subjected for evaluation by various physical parameters like angle of repose, bulk density, tapped density and Hausner's ratio.

- A. Angle of Repose:
- B. Bulk Density
- C. Tapped density
- D. Percent Compressibility:

Physicochemical Evaluation Physicochemical evaluation included parameters like moisture content, pH and ash values.

- 1. pH:
- 2. Moisture content:
- 3. Ash value:
 - i. Total Ash value:
 - ii. Acid insoluble Ash value:
 - iii. Water soluble ash value:

IRRITANCY TEST: The prepared face pack was applied to the previously marked area of a 1 square cm was marked on the left-hand dorsal surface and time was recorded. Skin was then observed for irritancy, erythema and edema (if any), for regular intervals up to 24hrs.

WASHABILITY: Formulation was evaluated for its ability to get washed off. Face pack was applied on the skin and then ease and extent of washing with normal tap water were checked manually

III. CONCLUSION

The face pack was created with the intention of enhancing skin nourishment, cosmetic appeal, and feel. It was made by blending powders from several organic plants and herbs. Natural ingredients tend to work well even when they don't directly change the physiological characteristics of skin. In contrast to synthetic face packs containing chemical agents, which may be dangerous when applied, these agents also have a tendency to have minimal adverse effects. To get rid of flaky and dry skin, use the prepared face pack as a face scrub.

The created face pack based on home remedies is safe to use on skin, according to the observation of all assessment criteria.

REFERENCE:-

- [1]. Sowmya KV, Darsika CX, Grace F, Shanmuganathan S. Formulation & Evaluation of Poly-herbal Face wash gel. *World J Pharm Pharm Sci*, 2015; 4(6): 585-588.
- [2]. Millikan, Larry E. *Cosmetology, Cosmetics*, Rieger MM. *Harry's Cosmeticology*. In: Chapter 23, Face, body & Hair Masks & Scrubs. New York: Chemical Publishing Co., Inc, 2009; 8(1): 471-483.
- [3]. Zinnia. *Ayurvedic Face Packs for Glowing Skin*. *Style Craze*, 2017; 24.
- [4]. Baby, A. R., Zague, V., Maciel, C. P. M., Kaneko, T. M., Consiglieri, V. O., Velasco and
- [5]. M. V. R, Development of Cosmetic Mask Formulations. *Rev Bras Cienc. Farm*, 2004; 40(10): 159-161.
- [6]. Banchhor, M., Ashawat, M.S., Saraf, S. and Saraf, S. *Herbal Cosmetics: Trends in Skin*
- [7]. Care Formulation. *Phcog Rev*, 2009; 3(5): 82-89.
- [8]. Chanchal D. and Saraf S. *Herbal Photoprotective Formulations and their Evaluation*. *The Open Nat Prod Journal*, 2009; 2: 71-76.
- [9]. Dureja, H., Kaushik, D., Gupta, M., Kumar, V., Lather, V. *Cosmeceuticals: An emerging concept*. *Ind J of Pharmacol*, 2005; 37(3): 155-159.
- [10]. Kumar. K., Sasikanth, K., Sabareesh, M. and Dorababu, N. *Formulation and Evaluation of Diacerein*, 2011. *Cream*. *Asian J Pharm Clin Res* Shoba rani R; Hiremanth. *Text book of Industrial pharmacy, Drug delivery systems & Cosmetics & Herbal drug technology: Universities press (India) Ltd*, 4(2): 9398, 5.
- [11]. Millikan, Larry E. *Cosmetology, cosmetics, cosmeceuticals: definitions and regulations*.
- [12]. *Clinics in dermatology*, 2001; 19(4): 371-374.
- [13]. B M Mithal; RN Saha. *A Hand book of cosmetics*: MK Jain, 2 Swarnalatha saraf, Shailendra saraf. *Cosmetics a practical manual*, Pharma med press, 2005; 1: 126-129.
- [14]. Deep Chanchal; Saraf Swarnlata. *Herbal Photoprotective Formulations and their Evaluation*, the Open Natural Products Journal, 2009.
- [15]. Rajeswari R, Umadevi M, Rahale CS, Pushpa R, Selva venkadesh S, Sampath Kumar KP,
- [16]. Bhowmik D. *Aloe vera: The Miracle Plant Its Medicinal and Traditional Uses in India*. *J Pharmacogn Phytochem*, 2012; 1(4): 118-124.
- [17]. Ashawat MS., Banchhor M., "Herbal Cosmetics, "Trends in skin care formulation"
- [18]. *Pharmacognosy Rev.*, 2009; 3(5): 82-89.
- [19]. Saraf S, Kaur CD. *Phytoconstituents as photo protective novel cosmetic formulations*, *Pharmacogn. Rev.* 2010; 4(7):1-11.
- [20]. Mandeep S, Shalini S, Sukhbir LK, Ram KS, Rajendra J. *Preparation and Evaluation of Herbal Cosmetic Cream*. *Pharmacology online* 2011, 1258-64.
- [21]. Kumar R, Komal. *Formulation and evaluation of herbal face pack*. *Asian J Pharm Res.* 2021; 11(1):9-12.
- [22]. Nemade CT, Baste N. *Formulation and evaluation of a herbal facial scrub*. *World J Pharm Res* 2014; 3(3): 4367- 4371.