



FORMULATION AND EVALUATION OF HERBAL PEELOFF MASK

Sonawane Sanket Digambar, Chandak Siddharth Shrikant, Lonare Prathamesh Rajendra,
Prof. Kapile Cinmay Rajendra.

ABSTRACT

The purpose of this work is to design and analyze an herbal peel-off mask for radiant skin using natural products. It is very important to safeguard the skin since it is a very sensitive and protective layer of the body that is prone to pollution from the environment. Using various cosmetics prepared especially for the face, like creams, lotion face masks, peel-off masks, etc., can guard the facial skin. The dosage form is a peel-off mask, which is then positioned on the facial skin surface and peeled away after some minutes. It is the treatment that is employed to open obstructed pores and heal facial skin problems like wrinkles, aging, and acne pores triggered by dust deposition. It can also be employed to treat wrinkles, acne, and aging. Ficus religiosa and sago are the active constituents of this formula. The key significant property of sago is film formation and the use of Ficus religiosa for skin brightening. For this project, we prepared an herbal peel off mask using Ficus religiosa and tested it by employing different methods.

KEYWORDS: Herbal peel off mask, Ficus religiosa, Sago.

Introduction:

Every woman's aspiration is to possess facial skin that is smooth, soft, and free from acne. Most facial treatment cosmetics have ingredients made from impurities such as mercury, hydroquinone, etc. These ingredients are not good for the skin when applied for a long time. Therefore, natural ingredient masks are one of the natural ingredient-based beauty products that are utilized. Masks made from natural products without the addition of chemicals or preservatives are referred to as "natural masks." Among the treatments for skin care is a mask, that is, an effective peel-off mask. The peel-off mask is a cosmetic gel-based skincare product that will leave a clear, after having been applied to the skin for a specific time before drying off, elastic film covering so that it can be peeled off. Peel-off face masks are beneficial in restoring and treating wrinkles, aging, and acne of facial skin and also in decreasing pore size [1]. Even today, individuals still use natural medicines like plant extracts for different cosmetic purposes, e.g., neem, aloe vera, tulsi, orange peel, rose, etc., particularly in rural and hilly regions. The products, which are used to sterilize and improve the skin, are referred to as herbal cosmetics. The main advantage of using herbal cosmetics is that they are natural and have no adverse effects on the body. Human beings have hard skin, and if they do not pamper it properly, the skin gets dark due to excessive exposure to sun, pollution, etc [2]. Alternatively, organic and herbal products are great for sensitive skin as they clean and moisturize the skin softly without causing dryness. These items consist of a lot of all-natural ingredients that are easy for the skin to absorb and maintain it in its healthy and smooth form [3]. A very common topical remedy for enhancing the facial skin's quality is the peel-off face mask gel. The skin face mask has an advantage in the sense that it can be easily peeled off or washed away since it is an elastic membrane. The peel-off gel face mask can be utilized to minimize pores as well as

recuperate, repair, and heal the facial skin. It can also be utilized as a cleanser or a freshener, as well as in relaxing the facial muscles [4]. Peel-off facial masks are famous for their unique characteristics obtained from the employment of film-forming polymers that, when completely dry, create a very cohesive plastic film allowing the product to be removed manually without leaving any residue [5].

LITERATURE REVIEW

1) Yadav et.al.(2023).

The objective of this work is to design and evaluate a cosmetic herbal face pack for all skin types using natural products with different concentrations. Three different recipes were prepared from ingredients available in the local market, such as multani mitti, orange peel, neem, and aloe vera. These formulations were then subjected to sieve number 44, geometric mixing, and analyzed for their morphological, physio-chemical, general powder, and chemical properties. The powdered amalgam possesses good flow properties and is thus appropriate for a face pack. All the formulations prepared were assessed for irritancy and photosensitivity, along with stability, morphological properties, and physicochemical values. Herbal face masks or packs are applied to enhance blood circulation, rejuvenate muscles, and aid [6].

2) Jigar et.al.(2020).

Skin is a highly sensitive and outermost part of human body which is exposed to natural conditions and thus, protecting the skin is extremely necessary. There are plenty of cosmetics in the market for skin care and they have a broad range of cosmetics meant for face application. They can be in the form of a face mask, lotion, sun cream etc. Peel-off mask is the dosage form which is smoothly placed on the skin surface of the face and peeled off after a few minutes of placing, but in this case, we are introducing a new concept of solid film peel-off mask. It can be applied as the cure in the treatment of skin problems occurring in the face like black hairs, dark-spots, dead skin and primarily utilized to open the closed pores because of dust deposition. Its primary function is to Stimulate the metabolism because of occlusion. Multani mitti is being incorporated as an active ingredient into this formula. The most significant feature of a multani mitti is its cooling action. As an active component in peeling off solid film mask, it enhances its worth by adding to the function of peel off mask by soaking up dust particles and opening blocked pores. Literature review shows numerous papers associated with the formulation of herbal peel off masks but none published paper concerning solid film peel off masks. In this research, we have formulated multani mitti solid film peel off mask and Evaluated it by applying different tests methods. The formulation indicated over whelming results after applying on healthy female volunteers [7].

3)tPriyanka Shukla et.al.(2023)

Activated charcoal has been employed as an active ingredient in cosmetic products over the last few years. Because of its adsorbing nature, it is being used in all types of beauty products ranging from face masks to cleansers and even soaps. Activated charcoal is employed as an active ingredient in this product. Natural medicines are more acceptable due to the belief that they are safer with less side effect compared to the synthetic versions. Herbal preparations are increasing demand in the global market. Herbal face masks are used to enhance the blood flow, rejuvenate and assist to keep the skin elastic and it also cleanses the dirt from pores of the skin. It is a great initiative to create the herbal face mask with different herbal powders. The most significant benefit of herbal cosmetics is that it is non-toxic and lowers the allergic reactions. Here, we have created the activated charcoal peel off mask and also tested them by applying different test methods. The product revealed great results after being applied. Applications of these face masks are cleansing, moisturizing and beauty nourishment for facial skin. These peel-off masks possess the added benefit of being convenient due to their peeling off quality and it acts like an elastic membrane [8].

4) Bhavsar Saurabh et.al.(2023).

The primary aim of the work is to develop and test poly herbal fruit face mask for cosmetic applications. Banana, Orange peel, Amla, Tomato, Strawberry and Papaya were taken from the local market, dried, powdered, sieved using sieve no 40, blended geometrically and filled in air tight container for future use. The powders were checked and made into a poly herbal fruit face mask. The powder possessed an acceptable flow property suitable for a face mask. Particle size of the powder was 25-30 μ m. Antimicrobial testing was done with three strains Staphylococcus aureus, Staphylococcus epidermidis and propionibacterium acnes. Poly herbal face packs are employed to activate blood circulation, revitalize the muscles and assist in keeping the skin elasticity and cleaning pores on the skin. Poly herbal cosmetics have the benefit of being nontoxic in nature and diminishing allergic effects. Thus the study strictly concluded that the face mask possesses good qualities to human skin [9].

5) Mane P.K.et.al.(2021).

The peel-off mask can be employed as the solution to rectify facial skin concerning issues like acne, dark complexion, wrinkles etc. It can be utilized for washing and wetting the skin. The majority of the peel-off masks are made of polymers which have the ability to create a thin film on skin. They come in gel form. Dead skin may be stripped using a peel-off mask. The most frequent skin issues in youths, typically 18-25 years old are acnes and oily skin. The current work is concerned with the preparation and assessment of the topical peel-off gel mask with a single herbal powdered drug i.e. Fenugreek and other chemical reagents like polymers, e.g. polyvinyl alcohol (PVA), Carbopol and Sodium. Also, triethanolamine, talcum powder and preservatives are utilized in the gel product. Three batches of formulation i.e. F1, F2 and F3 were prepared and analyzed for several parameters such as color, odor, consistency, washability, pH and spreadability. Additionally, peel-off gel masks for all three batches were also manufactured by drying them and analyzed for their peeling time. Among all the formulations tested, batch F2 was optimum for all the parameters. The Fenugreek powder utilized in this peel-off gel formulation have been described in the literature for its skin problem activity i.e. it decreases acne and treats oily skin, and the gel also proved to be good for all the testing parameters. Thus, this peel-off gel mask would be a suitable substitute for synthetic anti-acne gels [36].

6) Mamatha et.al.(2022).

The peel-off gel formulation is being made in order to preserve the skin from exterior environments as well as to minimize the acne and blemishes from the skin surface. Also, in order to treat the oily skin, so that the skin becomes more clear, beautiful and oil free. The most prevalent dermatological disorders in young people, typically 18-25 years old, include oily skin and acne. The current research is concerned with the formulation and assessment of the single herbal drug containing topical peel-off mask that is gram flour and unwanted chemical reagents like polymers, for example, polyvinyl alcohol Carbopol and sodium. Additionally, unwanted chemicals like triethanolamine, talcum powder and preservatives are worn in gel form.

OBJECTIVES:

- 1) This herbal peel off mask formulate and to develop work by eliminating dirt, bacteria and overall impurity is necessary to maintain balanced, toned, healthier skin.
- 2) This peel off mask formulate to shed dead skin cells. This make skin smooth and look glow.
- 3) The objective of this peel off mask that when the mask dries off on your skin a becomes tighter, it also pulls out dirt, bacteria, blackheads and whiteheads.
- 4) tSago is used as a film former in this mask. This is herbal alternative for the PVA, this make it a great product.
- 5) tFicus religiosa powder is an active ingredient that have a power to lighten the skin.

- 6) To detect and choose appropriate herbal ingredients with well-known skin-advantageous properties like anti-inflammatory, antioxidant, antibacterial, and exfoliating action.
- 7) To develop a peel-off mask based on natural herbal extracts and appropriate base materials compatible for skin application.
- 8) To find out the efficacy of the mask in cleansing, oil control, and skin texture improvement through user response or dermatological evaluation.
- 9) To determine the safety and skin compatibility of the product through irritation and sensitivity tests.

Benefits of applying herbal peel-off mask:

1. Due to the natural ingredients, it helps to eliminate blackheads and acne.
2. Dead skin cells are typically removed by face masks.
3. make your skin look healthier
4. They aid in restoring the skin's lost radiance and glow, for a long period of time.
5. These face masks give out a calming and unwinding impact on the skin ^[12,13,14,15].

METHODOLOGY AND FORMULATION

- I) Ingredients
- II) All the ingredients of formulation i.e., Ficus religiosa powder, sago powder, neem powder, orange peel powder, xanthan gum, coffee, rose water, aloe Vera gel, lemon juice. The details of all ingredients of peel of mask formulation are given below:
- III) a) Ficus religiosa powder:
- IV) The ficus religiosa tree, or "Tree of Life," has been utilized in Ayurveda for centuries. It is also referred to as Bodhi Satva and is widely used in both traditional and Ayurvedic medicine because of its numerous benefits and medicinal properties. Numerous rashes and skin afflictions are aided by the leaves and bark. Also, they work marvels to clarify the face by reducing zits, wrinkles, blackheads, whiteheads, and other blemishes. When applied to dull skin, bark extract levels the complexion and heals scars, pigmentation, acne, and bruises. Ficus religiosa tree bark is renowned for its skin lightening property. It is also utilized to heal eczema and itching It is applied for skin lightening [16,17,18].



a) Sago powder:

In India, tapioca sago is known as sago (javvarisi in Tamil or sabudana in Hindi). It is a commodity that is produced from tapioca root milk. It is derived from the plant "Manihot Esculenta Crantz 'Syn. Utilissima, family Euphorbiaceae. It contains moderate levels of potassium, copper, iron, calcium, folic acid, and vitamin B but is rich in protein, carbohydrate, iron and starch [19]. The possible application of starch as gelatin substitute and the successful film-forming property have sparked interest. The film was produced by employing modified sago starch [20]. Films based on starch do not contain any flavors, colors, and odors. The pH-sensitive films were formed through a casting method and different concentrations of torch ginger extract (TGE) [21,22] Flavonoids and phenolic acids, two types of antioxidants that are good free radical terminators, exist in sabudana. This promotes the formation of new skin cells, hiding wrinkles and fine lines. Also, the rich amino acid reserves in sabudana aid the process of collagen production, maintaining the suppleness and smoothness of skin [23,24]. Sago is filled with antioxidants that can combat free radicals and provide you clear skin in the end and exfoliates skin. It was previously a film former.



a) Neem powder:

Neem leaves were sun-dried for 24 hours before being ground in a mixer grinder. Powder was eventually obtained. It is particularly useful for oily and acne-prone skin and has antibacterial, antioxidant, antifungal, anti-inflammatory, and antiseptic qualities [25,26].



a) Aloe Vera:

The garden provided the aloe Vera. To get the pulp, peel the aloe Vera's outer skin off. Lastly, the pulp was grinder. to create aloe Vera gel. Aloe Vera moisturizes skin, renews it, and keeps skin healthy at all times. Aloe Vera has microbial defenses. a characteristic that makes it good for treating pimples and acne. It is used as a preservative ^[29,30].



Fig.5.Aloevera gel

b) Xanthan gum:

A fermentation process results in the production of xanthan gum, a naturally occurring high molecular weight polymer. It is a particularly powerful stabilizer for water-based systems because of its outstanding rheological characteristics. It used as a stabilizer and nontoxic thickener ^[32].



a) Lemon juice:

Fresh lemon extract juice is a natural preservative and is recommended as a healthy alternative to synthetic preservatives. IT decrease the growth of bacteria, it is also used as an antioxidant and anti- aging agent ^[33].



Fig 8. Lemon juice

b)Rose water:

Rose water is a fantastic source of antioxidants and is utilized for cosmetic purposes due to its ability to moisturize well and give skin a healthy glow. It is used as a solvent ^[34].



SR. NO	INGREDIENTS	CATEGORY	OPTIMIZED CONCENTRATION (40 gm)		
			F1	F2	F3
1	Ficus religiosa powder	Active ingredient	16	10	14
2	Sago powder	Film Forming	9	8	8
3	Neem powder	Antimicrobial	4	5	3
4	Xanthan gum	stabilizer	5	6	5
5	Aloe Vera gel	moisturizer, preservative	3	3	3
6	Lemon juice	preservative	0.5 ml	0.5 ml	0.5 ml
7	Rose water	antiseptic	q.s.	q.s.	q.s.

Method of preparation:

- 1) Firstly, take 8 gm of sago powder in the beaker and add some rose water. Heat it up to 85°C, the temperature was maintained for 45 min with continuous stirring.
- 2) After that, it was cooled to 40 °C.
- 3) Add 16 gm of Ficus religiosa powder and mix it well.
- 4) Then add 6 gm of xanthan gum and mix it with gentle stirring.
- 5) Now add 4 gm of neem powder and mix it well.

- 6) Then add 4 gm of orange peel powder and mix it with gentle stirring.
- 7) Add 2 gm of coffee powder and mix well.
- 8) Then add 3 gm of aloe Vera gel and 0.5 ml of lemon juice and mix it with gentle stirring.
- 9) Add quantity sufficient rose water to obtain spreadable consistency.
- 10) Prepare formulations were filled in a suitable container and labeled accordingly.

Final Formulation:



1) Organoleptic characteristics:

a. Colour:

Dark olive green in color.



Fig.11. Color

a) Odor:

It has characteristic odor

b) Consistency:

It is smooth to spread.

c) State:

Semi solid.

1) PH:

The pH value of this herbal peel off mask was determined by using a digital pH meter and the value of this herbal peel off mask was found to be 6.5-8.5 ^[35,36].

2) Irritancy test:

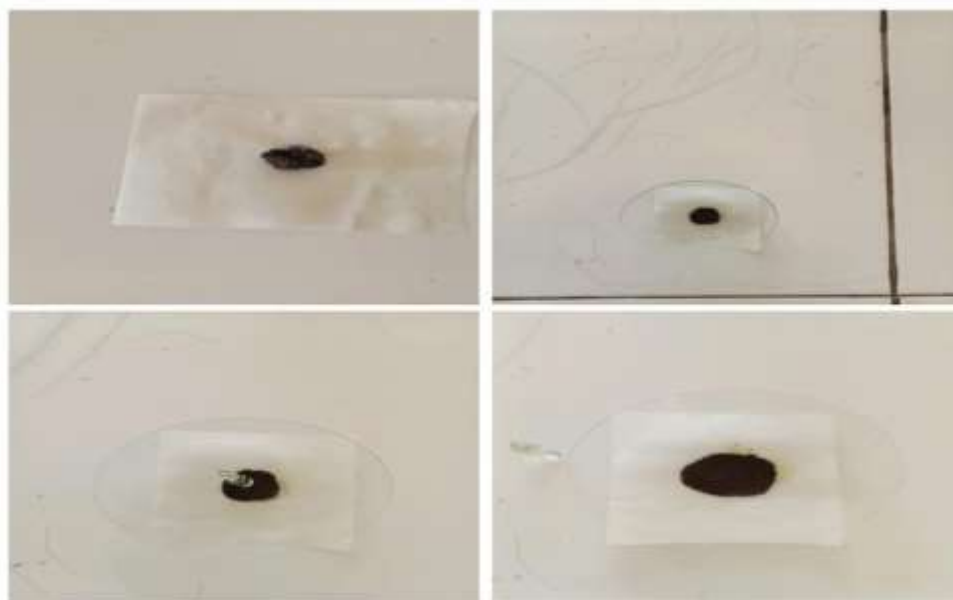
In order to screen for irritant reactions including swelling, itching, and redness on the skin, a formulation was applied to the back of the hand and left it for 15 minutes, and observe it after 15 minutes. No irritation is observed ^[37].



Fig .12. Irritancy test

1) Spreadability test:

1 gm formulation was placed on a butter paper, and a watch glass was placed on the formulation. 2 minutes later, a 5 g weight was placed on the watch glass to Measure the sample's diameter after compressing it to a consistent thickness. Diameter was measured, it is smooth and easy to spread ^[38,39].



1) Peel off test:

The skin on the back of the hands was covered with a 4x4mm formulation film. Give it 15 to 20 minutes to properly dry. After 15-20 minutes' peel off the dried film. Peel was removed easily and no issues observed in peel removal ^[8,10].



Fig.14. Peel off test.

2) Folding endurance:

The formulation is applied onto the skin. Once the film had dried, a 3,3 cm section was cut, folded at the same spot until it was broken. The amount of folds that a piece of film may withstand without breaking is known as folding endurance. Folding endurance was 80 ^[7,40].

The prepared herbal peel off mask was evaluated and data was reported in table:

Sr.no.	Test	F1	F2	F3
1	color	Dark olive green	Dark olive green	Dark olive green
2	Odor	characteristic	characteristic	characteristic
3	consistency	Smooth and thick	Smooth and thick	Smooth and thick
4	State	Semi-solid	Semi-solid	Semi-solid
5	PH	6.5	7.5	8.5
6	Irritancy test	No irritation	No irritation	No irritation
7	Spreadability test	Smooth and light to spread	Smooth and light to spread	Smooth and light to spread
8	Peel of test	Peel removed easily from the skin without breaking	Peel removed easily from the skin without breaking	Peel removed easily from the skin without breaking
9	Folding endurance	60	80	100

CONCLUSION:

The purpose of developing herbal peel of mask was found to be successful with good performance. This peel off mask demonstrates good spreadability. Good peel off property is exhibited by the formulation on human skin without inducing skin edema or irritation. Through this study, it was also found that the formulation is able to remove acne, wrinkles, dirt, dead skin cells and clean the oily surface. The formulation was quite stable at room temperature. The formulation is well compatible with every skin type. The formulation moisturizes the skin and shields the skin against the surroundings.

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