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FORMULATION AND EVALUATION OF PEEL OFF FACE MASK CONTAINING FENUGREEK

^{1*}Kalyani V. Wagh, ²Prof. Anand Gawai, ³Prof. Tejas J. Sharma and ⁴Dr. Shivshankar D. Mhaske

¹Pharmacy Student, ^{2,3}Assistant Professor and ⁴Principal. Satyajeet College of Pharmacy, Mehkar, Buldana- Maharashtra.



*Corresponding Author: Kalyani V. Wagh

Pharmacy Student, Satyajeet College of Pharmacy, Mehkar, Buldana- Maharashtra.

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ABSTRACT

The peel-off mask can be used as the remedy to treat facial skin related problems such as acne, dark skin, wrinkles etc. It can be used for cleansing and moisturizing the skin. Most of the peel- off masks is prepared by polymers which can form thin layer on skin. They are available in gel form. Dead skin can be removed by applying peel-off mask. The most common skin problems among youngsters, usually 18-25 years of age are acnes and oily skin. The present work deals with the development and evaluation of the topical peel-off gel mask containing a single herbal powdered drug i.e. Fenugreek and other chemical reagents such as e.g. polyvinyl alcohol (PVA), and preservatives are used in the gel formulation. Three formulation batches i.e. F1, F2 and F3 were prepared and evaluated for various parameters like colour, odour, consistency, washability, pH and spreadability. Further, the peel-off gel masks for each batch were also prepared by drying them and evaluated for their peeling time. Amongst all the formulations studied, batch F2 was found optimum for all the parameters. The Fenugreek powder used in this peeloff gel formulation have been reported in the literature for its activity against skin problems i.e. it reduces acnes and treats oily skin, while the gel also showed good results for all the evaluation parameters. Therefore, this peel-off gel mask would be a good alternative to the synthetic anti-acne gels. Each batch were also prepared by drying them and evaluated for their peeling time. Amongst all the formulations Studied, batch F2 was found optimum for all the parameters. The Fenugreek powder used in this peel-off gel Formulation have been reported in the literature for its activity against skin problems i.e. it reduces acnes and treats Oily skin, while the gel also showed good results for all the evaluation parameters. Therefore, this peel-off gel Mask would be a good alternative to the synthetic antiacne gels.

INTRODUCTION

Herbal cosmetics are defined as the beauty products which pass desirable physiological activity such as Healing, soothing, appearance, enhancing skin glow and conditioning properties because of herbal Ingredients. These herbal cosmetics that can repair Revitalize and protect skin. One of the most common Disorders found among youngsters usually 18-25 years of age is Acne. Acne is a popular disorder among the Teenagers which make them feel unappealing to look at And also a sort of inferior feel. Herbal Plants are well known for their medicinal and cosmetic uses. Many Synthetic drugs like Benzoyl peroxide, antibiotics, and Anti-androgens are used to treat the disorder but Exhibit several side effects like dryness of skin, Dermatitis, bleaching cloth, etc. Numbers of Formulations are available in the market with a variety of active Pharmaceutical ingredients for treatment of Acne. Topical formulations are available in market as Follows: Gels, Creams, Lotions, Face wash or Cleansers. The peel-off gel formulation is being prepared in order To protect the skin from external environment as well As to reduce the acnes and blemishes from skin

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Surface. Also, to treat the oily skin, so that the skin can look more clear, beautiful and oil- free. Instead of formulating only gel formulation, the peel-off gel Formulation is more easier, safe and efficacious Remedy as compared to the gel formulation. The peel-Off gel gives more instant and desired effects than other forms of gel.

Peel off mask: Certain materials, like clay, which is commonly used in cosmetic preparations, cannot be applied properly or conveniently; as a result, they are immobilized on the substrate for easy application. These kinds of masks leave a film on the skin that is simple to remove. The majority of peel-off masks rely on polyvinyl alcohol (PVA) which result in tensor effect and occlusion.^[15] The mask can contain a variety of ingredients, including moisturizer, herbal soap, plasticizer, fragrances, and preservative. Masks are made with a variety of compositions, but generally speaking, their applicability is regulated by drying agents, such as alcohol, and matrix concentant materials and the state of the sta

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employed as a drying agent to regulate the duration of application. The less time needed for drying, the higher the alcohol content. The viscosity, film formation, and application thickness are all determined by the matrix concentratins.



Benefits of peel off face mask: Peel off mask is offer several benefits to the skin.

- 1. Exfoliation: it helps to remove the dead skin cells, leading to the smoothing and breathing effect to the skin complexion.
- 2. Pore Cleansing: The masks help unclog pores by removing surface debris and excess oil, which can be beneficial for oily or acne-prone skin
- 3. Hydration: Many formulations contain hydrating ingredients that can improve skin moisture levels.
- 4. Fine Line Reduction: Thetightening effect during drying may temporarily reduce the appearance of fine lines and enhance skin firmness.

Reason for using Fenugreek drug: The reason behind using Fenugreek powder as the main drug is its various effects for treating skin problems. The Fenugreek powder used in this peel-off gel formulation have been reported in the literature for its activity against skin problems i.e. it reduces acnes and treats oily skin, which is the aim for this research.

- Skin benefits of Fenugreek
- **Deep Cleansing:** Its powdered seeds act as a natural exfoliator, removing dirt and oil from pores.
- **Anti-Aging:** Rich in vitamins A, C, and K, fenugreek improves skin elasticity and reduces wrinkles.
- **Pigmentation Reduction:** Vitamin K helps lighten blemishes and even skin tone.
- **Moisturizing:** It hydrates dry skin, promoting a smoother texture when combined with yogurt and honey.
- Acne Control: Antibacterial properties help combat acne by regulating sebum production.

Literature review

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AIM

To prepare and evaluate herbal peel of face mask.

OBJECTIVE

- Preparation of herbal peel of face mask.
- Identification, collection of herbal plants.
- Extraction of herbal components without adding any chemical preservatives.
- Standardization of herbal peel of face mask.
- Preparation of convenient economical and herbal peel off face mask.
- The formulated peel off face mask will be subjected to accelerate stability study as per ICH guidelines.

Drug profile

- Biological name: Trigonella foenum-graecum.
- Synonyms: greek clover, methika, methi, chandrika.
- Family: leguminaceae
- Chemical constituents: saponins, glycoside, coumarin derivatives, alkaloids, proteins, cholines, flavonoids, prolamine.
- Uses: tonic, demulcent, aphrodisiac.



Taxonomical Information

- Kingdom: Plantae
- Order: Fabales
- Family: Fabaceae
- Genus: Trigonella
- Species: T. foenum-graecum

Fenugreek: Fenugreek (Trigonella foenum graceum Linn.) is an erect annual plant (height 30- 60 cm belonging to family Leguminosae (Fabaceae). Various parts of fenugreek, mainly its leaves and seeds have been widely worn in the Indian food. It has several cosmetic and medicinal uses. Its seed powder has various benefits on skin i.e., it is having excellent antifungal and anti-inflammatory effects. And other uses as follows

- 1. Anti-ageing: Fenugreek powder is excellent for slowing down the ageing process. It helps in the repairing of damaged cells regeneration of new cells. so, by using this powder one can get rid of ageing like wrinkles, fine lines, age spots etc.
- 2. Makes Skin Younger: Fenugreek powder can be used as facial scrub to get rid of dead cells and blackheads and to have a glowing and younglooking skin.
- 3. Treats Skin Problems: Using fenugreek powder provides relief from skin inflammations that are caused by burns, wounds, eczema etc. and speeds up

the process of healing.

4. Treats Oily Skin: Using face mask of fenugreek powder on oily skin can reduce the oiliness and also makes skin free from acne and other such skin problems.

MATERIALS AND METHODS

• Materials

- Fenugreek extract: it is used as the main in the formulation which will give the desired effect by application on skin.
- Polyvinyl alcohol: polyvinyl alcohol is a water soluble synthetic polymer which is colorless and odorless. PVA was dissolved in hot water gently with Continuous magnetic stirring and allowed to swell for 2-3 hours. It acts as a film forming agent.
- Methyl paraben: it is use as a preservative in the formulation.
- Glycerin: Glycerin can be used as a humectant in peel-off masks to help control viscosity and keep the skin moist.
- Essential oil: it is used to give good fragrance to the entire formulation.

Water: water is use as a base or a solvent.

Triethanolamine: it is use as a neutralizer to maintain the pH of the formulation.



• Method

Table 1: Formulation table for Preparing Peel-Off face mask formulation.

Sr. No.	Ingredients	Category	F1	F2	F3
1.	Fenugreek extract	Drug	5 ml	3 m	3 gm
2.	Polyvinyl alcohol	Film forming agent	10	12	14
3.	Methyl paraben	Preservative	0.2 gm	0.2 gm	0.2 gm

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4.	Essential oil	Fragrance			
5.	Glycerine	Humectant	4-5 drops	4-5 drops	4-5 drops
6.	Triethanolamine	Neutralizer	4-5 drops	4-5 drops	4-5 drops
7.	Water	Base /solvent	50 ml	50 ml	50 ml

- 1) To begin, accurately measure all the ingredients.
- 2) Dissolve methyl paraben in sufficient amount of water.
- 3) The film forming agent (PVA) dissolves in water.
- 4) In a Fenugreek extract the film former has been added.
- 5) Then the methyl paraben was added to above formulation.
- 6) Add enough of glycerine in the formulation.
- After that, the any essential oil such as rose oil, lemon oil, lavender oil was added in the formulation to enhance the odour of product.
- 8) Then the formulation was placed in electric stirrer for 20 Min for proper mixing.
- 9) At the end fill the formulation in to the well label and airtight container.

Evaluation test for peel off mask: The evaluation tests for the peel off mask are as follows

- **1. Physical evaluation**: Physical parameters such as colour, appearance and consistency and feel were checked of the prepared formulation.
- Colour The colour of formulation was checked out against the white background.
- Consistency The consistency was checked by Applying on skin.
- Greasiness The greasiness was assessed by the application on the skin.
- Odour The odour of the gels was checked by

mixing the gel in water and taking the smell.

- **2. Washability**: After applying formulations to the skin, the degree and ease of washing with water were manually assessed.
- **3. pH determination**: A digital pH meter was used to determine the formulation's pH. After dissolving one gram of gel in 100 milliliters of demineralized water, it was kept for a couple of hours. Three measurements of the formulation's pH were made. Prior to usage, the instrument was calibrated using standard buffer solutions at pH 4, 7, and 9.
- 4. **Spreadibility**: A pan containing 50 grams of weight was used to compress the extra sample gel to a consistent thickness in order to determine the spreadability of the gel. Spreadability was measured as the amount of time needed to separate two slides, or the amount of time the upper glass slide moves over the lower plate.

 $Formula - S = m \ge 1/t$

Where, S - Spreadability

M – Weight tied to upper slide L-Length moved on glass slide T – Time taken

- 5. Status of the peel-off film: After drying film was able to remove from the applied Site and it was soft to hard. Drying time took longer Time (30-35 min).
- 6. Skin irritation: there is no skin irritation after applying on the skin over the patch test of formulation.

OBSERVATION

Formulation code	Color	Odour	Consistency	Washability
F1	Yellowish	Lemon	Semi-solid	Good
F2	Yellowish	Lemon	Semi-solid	Good
F3	Yellowish	Lemon	Semi-solid	Good

Parameters	F1	F2	F3
PH			
Washability	Washable	Washable	Washable
Spreadability	Good	Good	Good
Skin irritation	Non irritant	Non irritant	Non irritant
Peeling time	10-15 min	10-15 min	10-15 min

RESULT

The peel off face mask containing Fenugreek was prepared successfully. In future prospective there will be some additional changes are occurs.

DISCUSSION

The peel off mask were use to remove dead skin from the skin. Significant increases in skin hydration, suppleness, and wrinkle reduction were seen with the Fenugreek peel-off mask. Fenugreek may have anti-aging benefits because of its anti-inflammatory and antioxidant qualities. The humectant qualities of the mask may be responsible for its capacity to enhance skin moisture.

CONCLUSION

When included in a peel-off face mask recipe, fenugreek shows promise in treating common skin issues including acne and greasy skin. The proper polymers in conjunction with natural extracts not only boost efficacy but also ensure user safety and happiness. Long-term evaluations are necessary to improve formulations and confirm their benefits through clinical studies. Three

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batches of formulation were made in total throughout this procedure. As a result, this peel-off mask may be both safe and beneficial for the skin. This herbal mixture is good for the skin since it helps prevent skin issues caused by using skin preparations that are full of chemicals.

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