

FORMULATION AND EVALUATION OF POLYHERBAL VANISHING CREAM

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ABSTRACT

The purpose of the present research work was to formulate and evaluate vanishing herbal cream. Herbal creams offer several advantages over other creams. The majority of existing creams which has prepared from drugs of synthetic origin and give extras fairness to face, but it has several side effects such as itching or several allergic reactions. Herbal creams do not have any of these side effects, without side effects it gives the fairness look to skin. Method carried out to prepare herbal cream was very simple. Firstly, oil phase was prepared, the mixture of stearic acid (17%), potassium hydroxide (0.5%), sodium carbonate (0.5%) were melted at 70⁰C. Secondly aqueous phase was prepared, mixture of alcoholic extract of crude drugs, including Peppermint, Green tea leaves, Clove bud, Ginger, Mustard, Turmeric, Cinnamon, Cumin, Nutmeg, Drumstick Bark, Liquorice, Linseed and

Wheat grains. Glycerin (6%), perfume (0.5%), water (71%) heated at 70⁰c. Then aqueous phase was added into the oil phase at 70⁰c with continuous stirring. Now, once the transfer was completed it was allowed to come at room temperature all the while being stirred. Perfume was added at last just before the finished product was transferred to suitable container. The above prepared herbal cream was evaluated. The physical parameters such as pH, homogeneity by visual and by touch, appearance (color), rubout (spread ability, wetness), washability, consistency, Patch test, irritancy test accelerated stability studies, type of smear, emolliency were determined. Further studies are needed to investigate this formulation for its performance.

KEYWORDS: Herbal extract, Vanishing cream, Evaluation, Green tea, Drumstick bark, Wheat grains.

INTRODUCTION

Now-a-days herbal extracts are used in the cosmetic preparations for augmenting beauty and attractiveness. Herbal cosmetics are classified on the basis of dosage form like- cream, powder, soaps, solutions, etc. and according to part or organ of the body to be applied for like; cosmetics for skin, hair, nail, teeth and mouth etc.^[1] Creams are semisolid emulsions intended for application to the skin or mucous membrane. A low fat moisturizer that disappears into the skin is called as a vanishing cream. It softens skin, leaving nothing behind.^[2] Vanishing cream are o/w emulsion based preparations containing aqueous phase and oil phase.^[3] Depending on the proportion of water to grease, cream can be water miscible and washed away easily or be thick and sticky. It is perhaps the commonest prescribed topical medicament. As it is less oily, messy and sticky, most patients find it more user-friendly.^[4]

The traditional systems of medicine, evolved over centuries had been responsible for safe guarding healthcare of the world until the advent of allopathic system of medicine. As the latter system used knowledge of modern biology and chemistry, for both discovery and treatment, it found fast acceptability among the users and now it occupies predominant space in the area of health care. In spite of this, the contribution of the traditional preparations, which are normally polyherbal, is increasing because of the general impression that these products are safe; while the single-molecule based modern drugs used in allopathic system can have severe adverse effects.^[5]

The skin is the body's first line of defense for external exposure. The signs of ageing are most visible in the skin. Although, ageing skin is not a threat to a person, it can have a detrimental effect on the psychology of a person.^[6] Much of the premature ageing occurs as a direct or indirect result of skin's interaction with the environment. Exposure to sunlight is a recognized as a major factor in the etiology of the progressive unwanted changes in the skin appearance.^[7] Photochemoprotective agents are capable of preventing the adverse effects of ultraviolet radiation on the skin, which are caused by excessive generation of reactive oxygen species.^[8]

This herbal vanishing cream consists of various crude drugs including Peppermint leaves (*Mentha piperita* family-Lamiaceae), Green tea leaves (*Camellia sinensis* family-



Theaceae), Clove bud (*Eugenia caryophyllus* family-*Myrtaceae*), Ginger (*Zingiber officinale* family *Zingiberaceae*), Mustard (*Brassica juncea* family *Brassicaceae*), Turmeric (*Curcuma longa* family *Zingeberaceae*), Cinnamon (*Cinnamomum zeylanicum* family *Lauraceae*), Cumin (*Cuminum cyminum* family *Apiaceae*), Nutmeg (*Myristica fragrans*, family *Myristicaceae*), Bark of Drumstick (*Moringa oleifera* family *Moringaceae*), Liquorice (*Glycyrrhiza glabra* family *Leguminosae*), Linseed (*Linum usitatissimum* family *Linaceae*) and Wheat grains (*Triticum aestivum* family *Gramineae*).^[16]

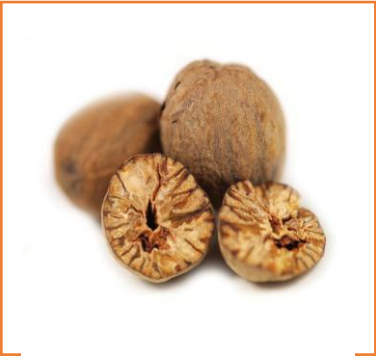




Objective: The objective of this research work was to formulate the cream which does not cause any side effects or adverse reactions. The cream also acts as a fairness expert in day to day life by removing aging signs. It also possesses nutritional value which provided required nutrients to the skin.






MATERIALS AND METHODS


Materials: All crude drugs were collected from Ayurvedic medicine shop, Alephata, Junner, Pune.

Table No. 1: Herbal Drug information.^[16]

Sr. No.	Herbal Extract	Medicinal Importance	Picture
1	Green Tea leaves (<i>Camellia sinensis</i> family <i>Theaceae</i>)	Many scientists believe that free radicals contribute to the aging process as well as the development of a number of health problems. Polyphenols present in green tea helps in anti ageing. Makes your skin looks younger and better.	
2	Turmeric (<i>Curcuma longa</i> family <i>Zingeberaceae</i>)	Prevents and heal dry skin, treat skin conditions such as eczema and acne, and retard the aging process.	

3	Nutmeg seed powder (<i>Myristica fragrans</i> , family <i>Myristicaceae</i>)	Anti-inflammatory properties will help reduce the sight of pimples. The stimulating properties will certainly wake up dead skin cells and help those no-so-fine lines around your mouth fade, curative properties that heal scars caused by everything from acne to sun spots.	
4	Linseed powder (<i>Linum usitatissimum</i> family <i>Linaceae</i>)	Omega 3 fatty acids in flaxseeds increase the speed at which wounds heal, high anti-inflammatory and successfully minimize skin irritation, rashes, inflammation and redness by regularly consuming flaxseeds.	
5	Wheat grains (<i>Triticum aestivum</i> family <i>Gramineae</i>)	Nourished skin that is made possible by the antioxidant properties of selenium.	
6	Clove Bud powder (<i>Eugenia caryophyllum</i> , family- <i>Myrtaceae</i>)	Antimicrobial, antifungal and antiseptic	
7	Ginger Rhizome powder (<i>Zingiber officinale</i> family <i>Zingiberaceae</i>)	It contains around 40 antioxidant properties that prevent free radical damage and protect against aging. It also evens skin tone and improves elasticity.	

8	Mustard seed powder (<i>Brassica juncea</i> family <i>Brassicaceae</i>)	Exfoliate dead skin.	
9	Cinnamon Bark powder (<i>Cinnamomum zeylanicum</i> family <i>Lauraceae</i>)	Cinnamon bark can help enhance nitric oxide function, which causes increased blood flow and lower levels of inflammation.	
10	Cumin seed powder (<i>Cuminum cyminum</i> family <i>Apiaceae</i>)	To get rid of pimples, acne and other skin infection and also start glowing because of antioxidants and cures boils and stop its further growth.	
11	Drumstick Bark powder (<i>Moringa oleifera</i> family <i>Moringaceae</i>)	Antioxidants play a vital role in maintaining healthy cells in our body. These can slow down the aging process and skin purifying properties. It removes impurities from the skin and rejuvenates it. It also enhances fairness and maintains the natural skin color.	
12	Liquorice (<i>Glycyrrhiza glabra</i> family <i>Leguminosae</i>)	Skin pigmentation control	

13	Peppermint leaves powder (<i>Mentha piperita</i> family <i>Lamiaceae</i>)	Due to a healthy combination of vitamins, minerals, and antioxidants, peppermint leaves promote hair health. Here are the benefits it offers.	
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Method Of Preparation

Steps carried out in the preparation of vanishing herbal cream were as follows.^[6]

Preparation of alcoholic extract of crude drugs: All above mentioned powdered crude drugs of 5gms were taken into the conical flask and then 100ml. of ethanol was added to it, then the conical flask was capped with aluminum foil. Then this mixture was placed for maceration for 5 days.

Preparation of oil phase: Stearic acid (17%), potassium hydroxide (0.5%), sodium carbonate (0.5%) was taken into one porcelain dish and this mixture was melted at 70°C.

Preparation of aqueous phase: Alcoholic extract of crude drugs mentioned in step-1 (4.5%), Glycerin (6%), Water (71%) were taken into another porcelain dish and heated this mixture at 70°C.

Addition of aqueous phase to oil phase: The aqueous phase was added to the oil phase with continuous stirring at 70°C. Now, once the transfer was completed it was allowed to come at room temperature, all the while being stirred. Perfume (0.5%) was added at last just before the finished product was transferred to suitable container. Then cream was evaluated for various physical parameters.

Evaluation of creams

pH: The pH meter was calibrated and measured the pH by placing in the beaker containing 20mg of the cream.^[9]

Spreadability test

500mg of the cream was sandwiched between 2 slides. A weight of 100gm was placed on upper slide. The weight was removed and extra formulation was scrapped off. The lower slide was fixed on board of apparatus and upper slide was fixed with non flexible string on which 20g load was applied. Time taken by upper slide to slip off was noted down.^[10]

Dye test

The test was done by mixing the cream with red dye then place the drop of cream was placed on a slide and covered with cover slip, observed under microscope. If the dispersion phase appears in red colored globules the cream was O/W type. If the continuous phase appears red color the cream was w/o type.^[10]

Homogeneity

The test was done by physical touch with hands.^[11]

Patch Test

About 1-3gm of material to be tested was placed on a piece of fabric or funnel and applied to the sensitive part of the skin e.g. skin behind ears. The cosmetic to be tested was applied to an area of 1sq.m. of the skin. Control patches (of similar cosmetic of known brand) were also applied. The site of patch is inspected after 24 hrs. As there was no reaction the test was repeated three times. As no reaction was observed on third application, the person may be taken as not hypersensitive.^[11]

Appearance

The appearance of the cream was found by observing its color, opacity, etc.^[11]

After feel

After applying the herbal cream on skin the properties like emollient nature, slipperiness and the amount of cream left after applying to the skin was checked.^[12]

Smear type

The test was conducted after the application of cream on the skin the smear formed was oily or aqueous in nature.^[12]

Removal

The removal of the cream applied on skin was done by washing under tap water with minimal force to remove the cream.^[13]

Irritancy test

The cream was applied on left hand dorsal side surface of 1sq.cm and observed in equal intervals upto 24hrs for irritancy, redness and edema.^[14]

Accelerated stability studies

Accelerated stability studies were performed on all the formulations by maintaining at room temperature for 20 days with constant time interval. During the stability studies the parameters like homogeneity, viscosity, physical changes, pH and type of smear were studied.^[15]

RESULTS AND DISCUSSIONS

The herbal vanishing cream was prepared by using o/w emulsion method using mixture of alcoholic extract of crude drugs, including Peppermint, Green tea leaves, Clove bud, Ginger, Mustard, Turmeric, Cinnamon, Cumin, Nutmeg, Drumstick Bark, Liquorice, Linseed and Wheat grains and the extract were used and formulated 3 different formulations named C1, C2 and C3 but only C3 pass all evaluation test.

Table No. 2: Formulation of Herbal Cream.

Sr. No.	Ingredients	Quantity (%)
1.	Stearic acid	17%
2.	Potassium hydroxide	0.5%
3.	Sodium carbonate	0.5%
4.	Alcoholic extract	4.5%
5.	Glycerin	6%
6.	Perfume	0.5%
7.	Water	71.0%

Table No. 3: Evaluation Parameter.

Sr. No.	Parameters	Observation
1	Color and Odor	Yellowish and slightly aromatic
2	pH	6.9
3	Spreadability	Uniform with a value of 38 g.cm/sec
4	Washability	Washable
5	Consistency	Good

6	Grittiness	No gritty particles Found
7	Dye Test with Scarlet red	O/W type
8	Homogeneity By visual By Touch	Homogeneous Smooth and Consistent
9	Patch Test	Not hypersensitive
10	Irritancy test	No redness and edema
11	Accelerated stability studies	Stable
12	Type of Smear	Non-greasy



Fig. No.1: Vanishing Cream Formulation.

CONCLUSION

The vanishing cream of crude drugs with the best properties and having nutritional value was to be prepared by simple methods and less equipment are required. The prepared herbal cream also has antioxidant and antibacterial activity due to this it retards aging signs and pimple formation on the face. Further studies are required for this vanishing herbal cream. It was found that this type of formulation of the vanishing herbal cream was not prepared earlier. Oil in water emulsion-based cream was formulated using natural ingredients and was evaluated. By combining all these ingredients it can be concluded that this cream can be used as a multipurpose cream and the ingredients mixed can produce synergistic effect of the other. Further studies can be carried out on stability and skin irritancy test of the cream.

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