



RESEARCH ARTICLE

FORMULATION AND EVALUATION OF VANISHING HERBAL CREAM OF CRUDE DRUGS

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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 are prepared from drugs of synthetic origin and give extra 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, mixture of stearic acid (18%), potassium hydroxide (0.5%), sodium carbonate (0.5%) were melted at 700°C. Secondly aqueous phase was prepared, mixture of alcoholic extract of crude drugs, including *C. officinalis* Turmeric, Nutmeg, Cinnamon, Clove, Tulsi and Neem are commercially available as extracts and in different formulation to be used either for cosmetic purposes or for medical use. Glycerin (5.5%), perfume (0.5%), water (70%) heated at 70°C. Then aqueous phase was added into the oil phase at 70°C 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, appearance (color), rubout (spreadability, wetness), type of smear, emineny were determined. The herbal formulation showed good consistency, good spreadability, homogeneity, pH, non-greasy and no evidence of phase separation. The herbal extract containing cream substantially increased skin elasticity, hydration and decreased the skin melanin

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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 cosmetic products are the best choice to reduce skin disorders such as skin aging, skin wrinkling, hyper pigmentation and rough skin texture etc. The usage of synthetic products becomes very harmful from long time for the youth as well as our environment. Various synthetic compounds, chemicals, dye and their derivative proved to cause various skin diseases having numerous side effects. The value of herbs in the cosmeceutical making has been extensively improved in personal care system and there is a great demand for the herbal cosmetics. Thus we are using herbal cosmetics as much as possible. The basic idea of skin care cosmetic lies deep in the Rigveda, Yajurveda, Ayurveda, and Unani and Homeopathic system of medicine. These are the products in which herbs are used in crude or extract form. These herbs should have varieties of properties like antioxidant, anti-inflammatory, antiseptic, emollient, antiseborrheic, antikerolytic activity and antibacterial etc. The word herbal is a symbol of safety in contrast to the synthetic one which has adverse effects on human health.⁶

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This herbal vanishing herbal cream consists of various crude drugs including *C. officinalis* (calendula officinalis family-compositae) and *A.indica* (Azadirechta indica family-meliaceae), Turmeric (*Curcuma longa*, family Zingiberaceae), Nutmeg (*Myristica fragrans*, family Myristicaceae), Cinnamon (*Cinnamomum zeylanicum*, family Lauraceae), Tulsi (*Ocimum santum*, Lamiaceae), Clove (*Eugenia caryophyllus*, Myrtaceae).

Objective: The objective of this research work was to formulate the vanishing 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

Raw herbs collection: Materials: All crude drugs were collected from SMBT Institute of D. Pharmacy medicinal garden and SMBT Campus, Dhamangaon, Nashik. The plant material collected was identified and authenticated by Mr.S.R.Kochar, Assistant Professor, Pharmaceutics, SMBT Institute of D, Pharmacy, Nashik.

Method of Preparation: Steps carried out in the preparation of vanishing herbal cream were as follows.⁷

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 (18%), 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 Glycerin (5.5%), Water (70%) 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 CREAM

Determination of organoleptic properties: The appearance of the cream was judged by its color, pearl scence and roughness and graded.⁸

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

Determination of homogeneity: The formulations were tested for the homogeneity by visual appearance and by touch.

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

$$S = m \times l / t$$

Where, S – Spread ability

m- Weight tied to upper glass slide.

l- Length moved on a glass slide

t- Time taken.

The determinations were carried out in triplicate and the average of three readings was recorded.

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.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

Determination of emolliency: Emolliency, slipperiness and amount of residue left after the application of fixed amounts of cream was checked.

Determination of viscosity: The viscosity determinations were carried out using a Brookfield Viscometer (DV II+ Pro model) using spindle number S-64 at a 20 rpm at a temperature of 25°C. The determinations were carried out in triplicate and the average of three readings was recorded.¹³

Wash ability: The removal of the cream applied on skin was done by washing under tap water with minimal force to remove the cream.¹⁴

Irritancy test: The cream was applied on left hand dorsal side surface of 1sq.cm and observed in equal intervals up to 24hrs for irritancy, redness and edema.¹⁵

Table 1. Herbal Drug information ¹⁷

Sr. No.	Herbal Extract	Medicinal Importance and Uses	Picture
1	Cinnamon Powder (Cinnamomum Zeylanicum Family - Lauraceae)	Increased blood flow and Anti inflammatory	
2	Turmeric (Curcuma longa Family - Zingberaceae)	Anti-inflammatory Skin protective.	
3	Nutmeg seed Powder (Myristica fragrans Family – Myristicaceae)	Anti-inflammatory stimulating properties curative properties	
4	A.indica (Azadirechta indica family -Meliaceae)	Antibacterial	
5	C.Officinalis (calendula officinalis family-compositae)	Anti-inflammatory and Skin protective	
6	Tulsi (Ocimum santum, Lamiaceae)	Antioxidant	
7	Clove (Eugenia caryophyllus, Myrtaceae)	Rubifacient	

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.¹⁶

RESULTS AND DISCUSSION

The herbal vanishing cream was prepared by using o/w emulsion method using mixture of alcoholic extract of crude drugs, including *C. officinalis* and *A. indica*, Turmeric, Nutmeg, clove, tulsi and Cinnamon and the extract were used and formulations pass all evaluation tests.

Table 2. Formulation of Herbal Cream

Sr.No	Ingredient	Quantity (%)
1	Stearic acid	18%
2	Potassium hydroxide	0.5%
3	Sodium carbonate	0.5%
4	Alcoholic extract	5.0%
5	Glycerin	5.5%
6	Perfumes	0.5%
7	Water	70%

Table 3. Evaluation Parameter

Sr.No.	Parameter	Observation
1	Appearance	Yellowish green
2	Odor	Slightly aromatic
3	pH	6.8
4	Spreadability	Uniform with a value of 42 g.cm/sec Easily spreadable
5	Dye test with scarlet red	O/W type
6	Homogeneity •By Visual •By Touch	Homogenous Smooth and Consistent
7	Patch Test	Not hypersensitiveness
8	Types of smear	Non-greasy
9	Emolliency	No residue left
10	Consistency	Good
11	Viscosity	27044cps.
12	Washability	Washable
13	Irritancy test	No redness and edema
14	Accelerated stability study	Stable
15	Grittiness	No gritty particles

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. The present work focuses on the potential of herbal extracts for cosmetic

purposes & the use of bio active ingredients in cosmetic potentiate biological functions of skin & provide nutrients essential for healthy skin or hair.

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