



Formulation and Evaluation of Vanishing Herbal Cream of Crude Drugs

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ABSTRACT

The purpose of the present research work is to formulate and evaluate vanishing herbal cream. Herbal cream offers several advantages over other synthetic creams. The majority of vanishing creams prepared from synthetic origin (for e.g., acyclovir, triamcinolone, calcipotriene, triethanolamine, etc) gives extra fairness to face, but has several side effects such as itching, burning sensation and many other allergic reactions. Herbal creams do not have such side effects and it gives natural fairness to skin. Methods carried out for the preparation of herbal creams are very simple. Firstly, oil phase was prepared which was a mixture of stearic acid (17%), potassium hydroxide (0.5%), sodium carbonate (0.5%) melted at 70°C. Secondly, aqueous phase was prepared which was a mixture of alcoholic extract of crude drugs, including Chamomile, A. indica, Turmeric, Nutmeg, Cinnamon, Aloe was commercially available as extracts and are used either for cosmetic purpose or for medicinal use. Glycerine (6%), perfume (0.5%), water (71%) heated at 71°C. Then aqueous phase was added in oil phase at 70°C with continuous stirring. Once, the procedure was completed it was allowed to cool at room temperature with continuous stirring. Perfume was added at last just before the product was transferred to suitable container. The above prepared herbal cream was evaluated and physical parameters such as pH, homogeneity by touch and visual, appearance, wash ability, consistency, patch test, irritancy test, accelerated stability studies were determined. Further studies are needed to investigate this formulation for its performance.

KEYWORDS: - Crude drugs, Evaluation, Vanishing cream, Herbal extract.

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. 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.

Vanishing cream are o/w emulsion-based preparations containing aqueous phase and oil phase. 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.

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 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

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.

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. 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. Photo-chemoprotective agents are capable of preventing the adverse effects of ultraviolet radiation on the skin, which are caused by excessive generation of reactive oxygen species.

This herbal vanishing herbal cream consists of various crude drugs including Chamomile (*Matricaria chamomilla* family-Asteraceae) and *A. indica* (*Azadirachta indica* family-Meliaceae), Turmeric (*Curcuma longa*, family-Zingiberaceae), Nutmeg (*Myristica fragrans* family- Myristicaceae), Cinnamon (*Cinnamomum zeylanicum* family- Lauraceae), Aloe (*Aloe barbadensis* family-Liliaceae).

OBJECTIVE

The objective of this research work was to formulate the cream which

possesses nutritional value which provided required nutrients to the skin.

MATERIALS

All crude drugs were collected from Dattakala College of Pharmacy, Pune.

Table 1: Crude Drug Information

Sr. No.	Common Name	Botanical Name	Medicinal Use
1.	Chamomile	Matricaria chamomilla Family: Asteraceae	Anti-inflammatory, Anti-fungal, Anti-bacterial
2.	Neem	Azadirachta indica Family: Meliaceae	Anti-microbial
3.	Turmeric	Curcuma longa Family: Zingiberaceae	Anti-bacterial, Antiseptic
4.	Nutmeg	Myristica fragrans Family: Myristicaceae	Anti-inflammatory
5.	Cinnamon	Cinnamomum zeylanicum Family: Lauraceae	Anti-bacterial, Anti-fungal
6.	Aloe	Aloe barbadensis Family: Liliaceae	Anti-oxidant, Anti-bacterial

AUTHENTICATION

The plant material collected was identified and authenticated by Dr. Vishal Bharat Babar, PG Research, Department of pharmaceutical chemistry, Dattakala college of Pharmacy, Pune.

METHOD OF PREPARATION

Steps carried out in the preparation of vanishing herbal cream were as follows.

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 aluminium 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 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%), Glycerine (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 CREAM

Determination of organoleptic properties:

The appearance of the cream was judged by its colour, pearlescence and roughness and graded.

Determination of pH:

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

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

Determination of spread ability:

Spread ability may be expressed by the extent of the area to which the topical application spreads when applied to the affected parts on the skin. The therapeutic efficiency of the formulation also depends upon its spreading value. Hence, it was found necessary to determine the spread ability of the formulation. In this method, 500gms of cream was placed between two slides. A weight of 100gm was placed on upper slide for 10mins. The weight was removed and extra formulation was scrapped off. The lower slide was fixed on apparatus and upper slide was fixed with non-flexible string on which 20gms load was applied. Time taken by upper slide to slip off was noted down. The spread ability (S) was calculated using the formula:

$$S = m \times L/T$$

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.

Determination of Dye test:

The test was done by mixing the cream with red dye then place the drop of cream on a slide and cover it with cover slip, observed under microscope. If the dispersion phase appears in red coloured globules the cream was o/w type. If the continuous phase appears red colour the cream was w/o type.

Determination of Wetness:

It was determined by applying cream on skin surface of human volunteer.

Determination of homogeneity:

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

Determination of 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.

Determination of Appearance:

The appearance of the cream was found by observing its colour, opacity, etc.

Determination of Smear type:

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

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

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.

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.

Determination of Wash ability:

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

Determination of Irritancy:

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

RESULTS AND DISCUSSIONS

The herbal vanishing cream was prepared by using o/w emulsion method using mixture of alcoholic extract of crude drugs including Chamomile, Neem, Turmeric, Nutmeg, Aloe and Cinnamon and the extract were used and the cream was formulated which pass all evaluation tests.

Table 2: Evaluation Parameters

Sr. No.	Parameters	Observations
1.	Appearance	Yellowish green
2.	Odour	Slightly aromatic
3.	Ph	6.4
4.	Spread ability	Uniform with a value of 42 g.cm/sec Easily spreadable
5.	Homogeneity <ul style="list-style-type: none"> • By Visual • By Touch 	Homogenous Smooth and consistent
6.	Dye test with scarlet red	o/w type
7.	Patch test	Not hypersensitiveness
8.	Type of smear	Non-greasy

9.	Emolliency	No residue left
10.	Viscosity	26042 cps
11.	Consistency	Good
12.	Washability	Washable
13.	Irritancy test	No redness and Oedema
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 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. The prepared herbal cream was o/w type of emulsion. It was found that this type of formulation of the vanishing herbal cream was not prepared earlier.

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