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Research Article

**DEVELOPMENT AND EVALUATION OF CREAM CONTAIN
GREEN TEA EXTRACT, ALOE GEL AND VITAMIN E: AS
SKIN TONER**

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Abstract:

The purposes of the present research work was to development and evaluate herbal vanishing cream. This vanishing cream Contain Green Tea Extract, Aloe Gel and Vitamin E: As Skin Toner. 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 nourishment 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 70°C. Secondly aqueous phase was prepared, mixture of alcoholic extract of crude drugs, including Glycerin (6%), perfume (0.5%), water (71%) 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 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.

Key Words: Vanishing cream, Evaluation, Green tea, Vitamin E, Aloe gel

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INTRODUCTION:

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.[1] Vanishing cream are o/w emulsion based preparations containing aqueous phase and oil phase.[2] 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.[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


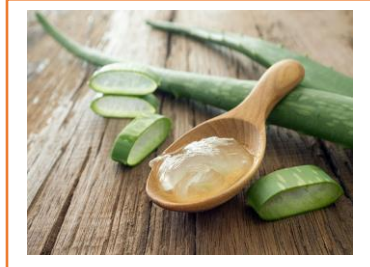
both discovery and treatment, it found fast acceptability among the users and now it occupies predominant space in the area of health care. In spite of this, the contribution of the traditional preparations, which are normally polyherbal, is increasing because of the general impression that these products are safe; while the single-molecule based modern drugs used in allopathic system can have severe adverse effects.[5] 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]



Objective: The objective of this research work was to develop the cream which does not cause any side effects or adverse reactions. The cream also acts as a skin toner in day to day life by giving even skin tone. It also possesses vitamin E which provided required nourishing to the skin.

MATERIALS AND METHODS:

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

Table 1: Herbal Drug information [16]

Sr. No.	Herbal Extract	Medicinal Importance	Picture
1	Green Tea leaves <i>Camellia sinensis (L.) Kuntze</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 and give even skin tone.	
2	Aloe vera <i>Aloe vera (L.) Burm.f.</i> Family <i>Asphodelaceae</i>	Moisturizing agent, delivers smoothing property to the skin. Aloe vera gel contains two hormones: Auxin and Gibberellins. These two hormones provide wound healing and anti-inflammatory properties that reduce skin inflammation. ... Additionally, in Ayurvedic medicine, Aloe is used to effectively heal chronic skin problems, such as psoriasis, acne and eczema.	

3	Vitamin E	Vitamin E oil works to block free radicals from the body, which play a large part in the aging process. If we can fight off free radicals, then we can reduce wrinkles and keep the skin youthful-looking.” It has basic antioxidant properties that everyone needs.	
4	Rose oil <i>Rosa canina L.</i> Family <i>Rosaceae</i>	Rose petal is rich with the anti bacterial properties along with the positive effects of Vitamin K, C and B. It also have good amount of antioxidants.	

Method of Preparation

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

Preparation of alcoholic extract of crude drugs: Powdered material was extracted with 250 ml of ethanol using Soxhlet apparatus for 6hr and extract was filtered through cotton wool. The filtrate was dried and concentrated.

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 green tea extract, aloe gel and vitamin E and the extract were used and developed formulations and pass all evaluation parameter (Table 3).

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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 due to this it retards aging signs and pimple formation on the face and it also contain aloe gel and vitamin E which give nourishing effect to skin. Further studies are required for this vanishing herbal cream. 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 anti-ageing and lock the skin moisture, it also nourish the skin due to presence of vitamin E. Further studies can be carried out on stability and skin irritancy test of the cream.

Table 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 3: Evaluation Parameter

Sr. No.	Parameters	Observation
1	Color and Odor	Yellowish green
2	pH	6.5
3	Spreadability	Uniform
4	Washability	Washable
5	Consistency	Good
6	Grittiness	No gritty particles Found
7	Dye Test with Scarlet red	O/W type
8	Homogeneity A) By visual B) 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.1: Vanishing Cream Formulation**

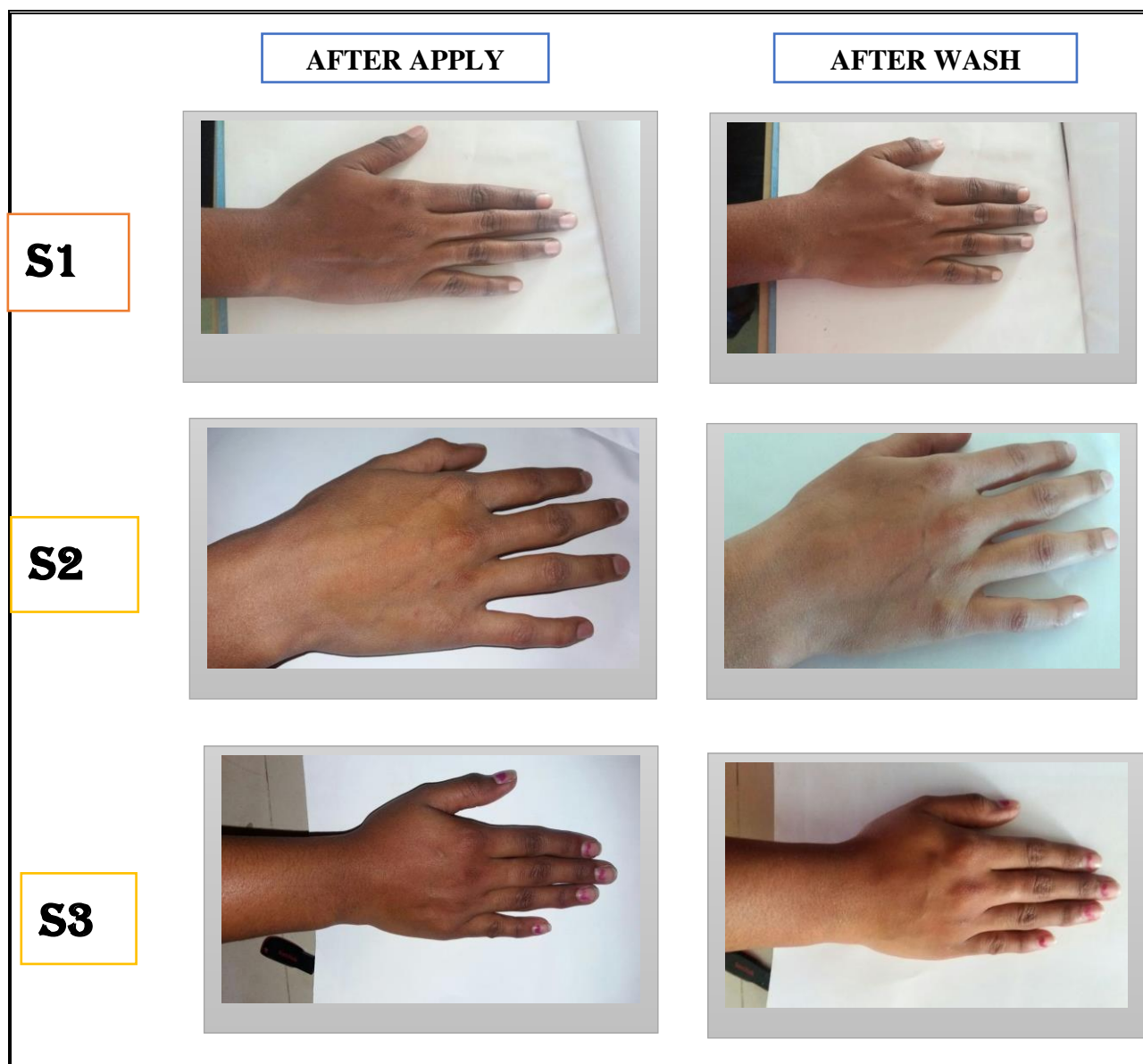


Fig.2: Patch Test for Three Different Skin Type (S1, S2 and S3)

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