

Development and Characterization of Vanishing Cream

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Abstract

Herbal vanishing cream has various advantages over existing cosmetic vanishing cream found in the market. Due to zero side effect of herbal vanishing cream, these are formulated. As every individual in today's world need a healthy, flawless, acne free skin and naturally glowing skin hence, herbal vanishing cream are gaining popularity. The most of existing cream which has been prepared from drugs of synthetic origin, such as acyclovir, triamcinolone, calcipotriene, mometasone which gives more fairness to the skin but may have various side effects such as itching or kinds of allergic reaction. The cream is oil in water emulsion. The current work is to present vanishing cream containing natural base was pleasant, effective, easily washable and completely safe for human use. In contrast with ointments, which are greasy and messy in nature and may cause staining of clothes, the prepared natural palm oil based vanishing cream was pleasant, easily washable thereby increasing patient compliance.

Keywords: Vanishing Cream; Aloe Vera

Introduction

A cream is a semisolid formulation comprising more than 20% of water and 50% of lipid vehicles usually to apply on skin. A drug molecule is also incorporated by dissolving or dispersing it in a suitable cream base. Various sorts of creams are accessible in the market to protect the consistency of the skin. Many irritable and unpleasant substances sticking on the skin includes skin secretions, sweat, salts, sebum as well as deposits of dirt bounded by oily substances require a special process of expulsion. Hence, a vanishing cream is eminent in protecting the skin from the above substances [1].

Most of the existing vanishing creams manufactured from synthetic sources offer fairness, yet they have few side effects, for example, tingling or unfavorably allergic responses. Perhaps, creams prepared from natural and herbal sources are devoid of any above side effects [2].

Herbalism has become a center of research and focus in pharmaceutical formulation and drug discovery due to the advancements in analysis and quality along with enhanced clinical research in treating and preventing disease. According to the World Health Organization (WHO), more than 80% of people worldwide depend upon the herbal medicines and about 25% of modern drugs have been derived from plants in the USA. In India, the Ayurvedic system of medicine was derived from the inscriptions from 1500 BC. Several herbs and minerals utilized in the Ayurvedic system of medicine during the 1st millennium BC were explained by famous herbalists such as Charaka and Sushruta [3].

Vanishing cream is so termed due to their no presence or zero evidence of presence upon application and rubbing on the surface of the skin. It forms a thin imperceptible and invisible film on the skin, followed by the dissipation of water that gives non-glossy appearance [4].

These creams are generally o/w type emulsion consisting of stearic acid, glycerin, lanolin, triethanolamine, aloe vera, and water. Hazeline Snow was the first marketed vanishing cream in 1892 by Burroughs Welcome [5]. Glycerin is a non-toxic polyol compound widely used in giving smoothness and lubrication to pharmaceutical preparations. Stearic acid is a fatty acid (saturated) utilized in the manufacture of detergents, soaps, and cosmetics [6]. Potassium hydroxide is an inorganic compound used to prepare the corresponding potassium soaps. Methylparaben used as a preservative and anti-fungal agent in various cosmetics and personal care products [7].

Material and Method

In this study gel of different ratio were prepared. Procedure for preparation of gel Four formulations were prepared in different ratios of chemicals for the preliminary studies.

S. No.	Ingredients	F1	F2	F3	F4
1	Stearic acid	18.0g	16	17	15
2	Glycerin	3.0g	2g	3.5g	2.5g
3	Lanolin	2.0g	2.5g	1g	1.5g
4	Triethanolamine	1.0g	0.5g	2g	1.5g
5	Water	80.0ml	60ml	75ml	70ml
6	Preservative	1.0g	2g	0.5g	2.4g
7	Aloe vera	10gm	15g	13g	18g

Table 1: Formulation of vanishing cream in different ratio.

Figure 2: Formulation of herbal vanishing cream.

Characterization

After getting the best formula based on accurate steric acid, glycerin, lanolin, triethanolamine, aloe vera, preservative, Purified water ratio, it was further studied for its characterization such as Colour, Appearance, Odour, Feel of application, Extrudability, pH value, viscosity, Spreadability, Stability, Grittiness, Homogeneity [8-10].

Physical appearance

The physical appearance was visually checked for the colour, appearance, odour, feel of application gel formulation was noted [11].

pH value

The pH of gel formulations were determined by using the digital pH meter. Electrodes were completely dipped into the gel formulations and pH was noted. The measurement of pH of each formulation was done in triplicate and average values were calculated [12,13].

Cream viscosity

The viscosity of the prepared o/w vanishing cream was measured by Brookfield Viscometer (LVT DV-E) with spindle CP-52 at different speeds and shear rates. The measurements were calculated within the range of 0.10, 0.20, 0.30, 0.40 and 0.50

Figure 1: Procedure to formulate vanishing cream.

rpm speed velocity with 60 sec between two successive speeds as equilibration. The shear rate ranging from 0.20-1.0 sec⁻¹ was applied at room temperature [14,15].

Cream spreadability

Spreadability is an important criterion for semisolids dosage forms as the therapeutic effectiveness of these formulations depends on their spreading value. It is defined as the area on the skin to which on the application of the cream is ready spreads. Spreadability is expressed in terms of seconds. It is performed by taking the cream in between two slides to slip off from each other, under the influence of a definite load. A good cream formulation will take less time for the separation [16-18].

Two glass slides of standard dimensions were taken, and a small amount of prepared cream was placed on one of the slides. The other slide was sandwiched between the two slides by inserting it on the top of the formulation across the length of 5 cm along with the slide. A weight of 100 g was exerted on the upper slide so that the prepared cream was pressed consistently to form a thin layer [19,20]. The weight was then removed, and the remaining cream remained to attach to the slides were eradicated. One of slides was fixed on which the cream was placed, and subsequent portable slide was placed over it, with one end attached to a string to which burden could be applied by the assistance of a straightforward pulley and a pan. A 30 g weight was put on the pan and the time taken for the upper slide to venture to travel the distance of 5 cm and separate away from the lower slide under the direction of the weight was noted (Das., *et al.* 2012). The spreadability was determined by using the formula as follows:

$$S = M \cdot L / T$$

where,

M = Weight tied to upper slide

L = Length of glass slide

T = Time taken to separate the slides

Stability

The stability studies for a drug component are performed according to the ICH guidelines. Stability testing of a drug molecule

starts with the drug discovery and finishes with the death of the compound. The cream was filled in a tube and placed in the humidity chamber maintained at 40 ± 2°C and 75 ± 5% RH for one month. At the end of the study, samples were investigated for the physical properties, pH and viscosity [21-23].

Results and Discussion

Physical appearance

The physical appearance test of l gel is done by observing it through sensory organ and following observation is made.

Physical Appearance	F1	F4
Colour	Whitish colour	Whitish colour
Odour	Pleasant odour	Pleasant odour
Appearance	Cloudy	Translucent
Feel of Application	Smooth	Smooth

Table 2: Organoleptic properties of various vanishing cream formulations.

Strength of pH

pH values of the sample is measured by using pH meter of model number Me-962P. The graph indicates that all the resulted pH values are in range between 6.8 –7.4. These values indicate that cream is suitable for topical administration. The pH of the prepared vanishing cream was 6.8, which is superior for every type of skin.

Figure 3: Vanishing Cream pH.

S.NO	Sample	pH
1	F1	6.8
2	F2	6.5
3	F3	7.2
4	F4	7.0

Table 3: pH value of various vanishing cream formulation.

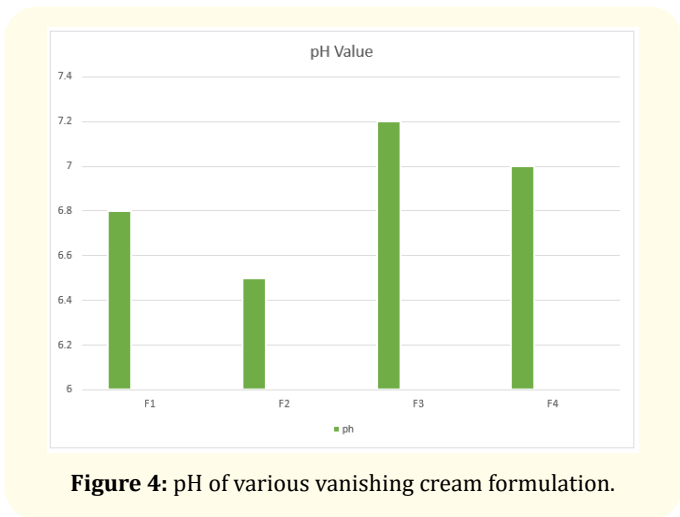


Figure 4: pH of various vanishing cream formulation.

Viscosity

The viscosity of the prepared polyherbal vanishing cream was in the range of 1100-1800 cps. This proves that the prepared vanishing cream was easily spreadable by a small amount of shear.

S.NO	Sample	Viscosity
1	F1	1200
2	F2	1500
3	F3	1700
4	F4	1300

Table 4: Viscosity measurement of various vanishing cream formulations.

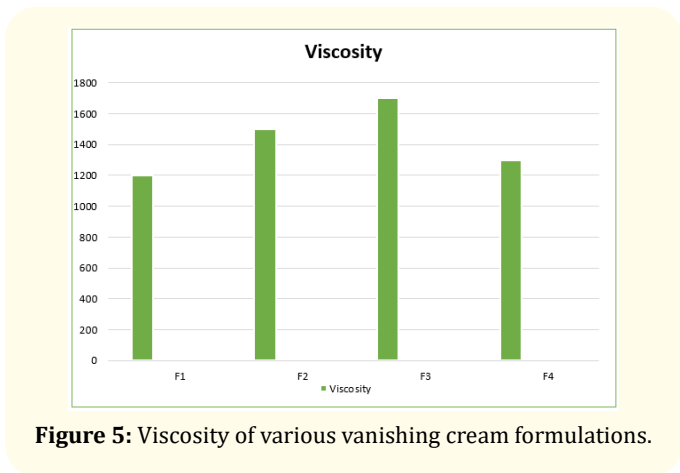


Figure 5: Viscosity of various vanishing cream formulations.

Homogeneity

It is tested for their appearance and presence of any lumps, flocculates, or aggregates.

S.NO	Sample	Homogeneity
1	F1	Flocculates
2	F2	Flocculates
3	F3	Aggregates
4	F4	Aggregates

Table 5: Homogeneity of various vanishing cream formulations.

Conclusion

The present work focuses on the potential of combining various herbal components to get a multipurpose effect on the skin for cosmetic purposes. The uses of cosmetics have been increased in the personal care system, and the bioactive ingredients in it influence the biological functions of skins. The natural herbs used in the preparation of vanishing cream was previously reported to have anti-fungal, anti-microbial, anti-inflammatory, skin-soothing activities for which it retards aging signs and pimple formation reduces wrinkles and protects from sunlight. The prepared formulation is devoid of any phase separation activity, showed good spread ability and consistency during the entire study period. Various parameters, such as visual appearance, nature, and fragrance of the formulations further elaborated that there was no significant variation during the study period. These studies suggest that the composition of extract and base of vanishing cream are stable and safe without side effects due to the presence of natural compounds. Further studies are required for verifying the synergistic potential of selected scientifically vanishing cream formulation.

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