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Formulation and Evaluation of Herbal Moisturizing Cream

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ABSTRACT

Herbal cosmetics are a type of formulation that is primarily used to protect and nurture a person's look. A semi-solid product for enhancing skin tone is a moisturizing cream. Compared to synthetic creams, herbal creams provide several benefits. The majority of currently available creams provide more fairness to the face and are made from medications of synthetic origin, but they also have several undesirable side effects, including irritation and allergic reactions. These adverse effects are not present in herbal creams, which nourish the skin without them. The current study work's objectives were to create and assess an herbal moisturizing cream that contains aloe vera gel, glycerine, rose water, and vitamin E capsules. The aforementioned herbal cream was assessed based on factors including pH, viscosity, greasiness, washability, appearance (colour), and homogeneity by visual and tactile means. According to the study, the extract's composition and the cream F2's base are both more secure and securer.

INTRODUCTION:

Creams are semisolid emulsions that are intended for application to the skin or mucous membrane. Depending on the ratio of water to grease, the cream can either be water-miscible and easily removed or thick and sticky. It's the topical drug that is suggested the most. Since it is less oily, dirty, and sticky, the majority of patients prefer it. [1] Herbal extracts are now often used in cosmetic products to improve attractiveness and appearance. Prior to the development of the allopathic medical system, traditional medical systems that had developed over centuries governed the world's healthcare. The latter strategy was swiftly embraced by consumers and presently has a dominating position in the healthcare industry since it depended on contemporary biology and chemistry for both research and therapy. [2] The dose form (cream, powder, soaps, solutions, etc.) and the body portion or organ to which they will be applied help categorize herbal cosmetics (cosmetics for skin, hair, nail, teeth, and mouth, for example). [3]

The stratum corneum's water content and the lipids on the skin's surface must be in balance to preserve the skin's look and functionality [4, 5]. Since the skin is the body's outermost covering, it is continually exposed to many external stimuli [6]. This equilibrium may be upset by both endogenous and exogenous influences [7, 8, 9]. Frequently using cleansers, detergents, and topical irritants like alcohol and hot water can also remove the lipids from the skin's surface [10]. Different types of skin issues were caused by skin barrier disruption. most prevalent issue is a loss of water content which leads to dryness of skin such as roughness, scaling, fissures, redness and an uncomfortable sense of tightness, often with itching and stinging [11]. Treatment with moisturizer aims at keeping skin integrity and well-being by producing a healthy appearance of the individual. Numerous moisturizers are marketed as natural, secure, organic, and herbal, yet all moisturizers have the same fundamental qualities of humectancy, occlusivity and emolliency [7]. Most of the available moisturizers employ synthetic adhesives, emulsifiers, perfuming agents, colours, surfactants and thickeners to build the basis. Natural agents must be used in place of hazardous synthetic agents at the base. [12, 13]

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

MATERIALS AND METHODS:

Collection Of Herbs (Aloe vera): In this we mainly use only one herb known as Aloe vera. 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. Aloe is used to effectively heal chronic skin problems, such us psoriasis, acne and eczema. The herb that is used for research study was collected from botanical garden at Bareilly.

Extraction of Aloe vera:

- First of all, we have to collect Aloe vera leaves from botanical garden and then washed with distilled water.
- Then we have to cut the outer part of leaf longitudinally with the help of knife.
- After that we removed colourless parenchymatous tissue and put it into beaker of 400 ml.
- Then we have to stir gel of Aloe vera with help of stirrer mixer.
- Then filtered it with help of muslin cloth to remove various types of impurities.
- At last cover beaker either by filter paper or with help of silver foil to prevent from microbial growth or any effect of environmental factor. (14)

Method and Evaluation of Cream:

- The cream was prepared by using Aloe vera, glycerine, rose water and vitamin E capsule.
- It was prepared by using different slab techniques and methods for mixing of all various types of excipients and especially for herbal extracts.
- By using extraction, we filtrate pure gel of Aloe vera from Aloe vera leaves and by using slab techniques we developed three different batches of our herbal cream.
- The various types of batches named as F1, F2, & F3.
- The formulation as well as evaluation for each batch done separately.
- By using parameters like pH, Viscosity, Irritancy, Phase separation etc. we evaluated all formulations of herbal cream. (15, 16)

Figure No. 1: Extraction of Aloe vera gel from plant

FORMULATION DEVELOPMENT:

- First of all, for the formulation of herbal cream we have to collect different types of glassware like beaker, spatula, measuring cylinder, petri dish or different types of equipment like stirrer mixer etc.
- After that we have to extract pure Aloe vera gel from leaves of *Aloe barbadesis* miller.
- Then we have to make three different formulations in different batches F1,F2,F3.
- In F1 we used Aloe vera gel (1gm), glycerine (2 drops), rose water (2 drops), vitamin E capsule (1 drops).
- In F2 we used Aloe vera gel (4gm), glycerine (3drops), rose water (2drops),&vitamin E capsule (2 drops).
- In F3 we used Aloe vera gel (7gm), glycerine (2drops), rosewater (3drops), &vitamin E capsule (3 drops).
- We mainly use glycerine because it acts as a moisturizing agent.
- Rose water work as a skin toner and gives a vital role as a fragrance.
- Vitamin E capsule prevents sunburns and improves skin growth. (17)

Table No. 1: Formulation Chart

Sr. No.	Ingredients	F1	F2	F3
1	Aloe vera gel	1 gm	4 gm	7 gm
2	Glycerin	2 drops	3 drops	2 drops
3	Rose water	2 drops	2 drops	3 drops
4	Vitamin E Capsule	1 capsule	2 capsule	3 capsule

EVALUATION TESTS OF CREAM:

1) Physical evaluation: This is basically used to check colour, odour, texture and stability of cream.

2) Irritancy: This is used to check the quality of materials as well as chemicals and whether it is harmful to skin / mucosal or not. First of all, we have to mark area on left hand (dorsal surface). After that we have to applied formulation of cream to that area and time was noted. Then we have to leave formulation for few minutes by this we can checked for irritancy.

3) Washability: This test is also used to check quality of cream. In this first of all we have to add small amount of cream which was applied on the hand. After that we have to washed with tap water.

4) pH test: This is basically refers to acidity levels of substances. The normal value of pH (cream)) is pH 4-7. This test was measured either by using digital pH meter or by pH paper.

5) Phase separation: This test is basically checked in 24 hr to 30 hr. For this we have to put cream in a closed container at a temperature (30 – 80 °C). Keep this formulation away from light.

6) Viscosity: This test is basically used to check or predict how materials used in cream will behave in the real world. It is mainly used to check efficacy.

7) Greasiness: This test is basically used to check nature of cream either oily or greased. According to result we can say that all formulations were non-greasy. (18-20)

RESULTS AND OBSERVATIONS:

After formulation and evaluation of herbal moisturizing cream, we observed various types of results with the help of various methods or techniques like physical evaluation, irritancy, phase separation, greasiness, viscosity, pH, washability and stability.

Table No. 2: Physical evaluation of Moisturizing cream

Sr. No.	Parameters	F1	F2	F3
1	Colour	Faint green	Faint green	Faint green
2	Texture	Smooth	Smooth	Smooth
3	State	Semisolid	Semisolid	Semisolid

Table No. 3: Irritancy, pH and Phase separation evaluation of Moisturizing cream

Sr. No.	**Formulation**	**Irritant Effect**	**pH**	**Phase Separation**
1	F1	Nil	4.5	Phase Separation
2	F2	Nil	5.2	No Phase Separation
3	F3	Nil	5.7	No Phase Separation

Table No. 4: Washability, Viscosity and Greasiness of Moisturizing cream

Sr. No.	**Formulation**	**Washability (Seconds)**	**Viscosity (cps)**	**Greasiness**
1	F1	10	1345	Greasy
2	F2	9	2345	No Greasy
3	F3	8	4322	No Greasy

DISCUSSION:

Following the application of several assessment criteria to prepared moisturizing cream formulations, the results were within the bounds shown in tables 2, 3, and 4. All of the formulations had a faint green hue, and it had a smooth texture. The formulation's pH value ranged from 4.5 to 5.7. The formulas' viscosities vary, ranging from 1345 cps to 4322 cps. From 8 to 10 seconds, the formulation's washability remained constant.

CONCLUSION:

The study's investigation led to the discovery that all of the formulations F1, F2 and F3 show improved results. This herbal moisturizing lotion lightens skin pigmentation and lessens other imperfections' visibility. Based on the results we suggest that all these formulations and suitable /safe for skin and were stable.

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