



“FORMULATION AND DEVELOPMENT OF HERBAL MOISTURIZING CREAM”

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ABSTRACT:

The goal of the current study was to create and evaluate a herbal moisturising lotion. One of the most widely used cosmetic ingredients, moisturisers, are frequently used by consumers to soften their skin. Moisturizers effectively combat dryness because it can result in discomfort, tightness, and irritability. The prepared base's stability, spreadability, and pH were assessed. Each cream possessed the qualities of excellent spreadability, good consistency, homogeneity, appearance, PH, ease of removal, and the lack of phase separation. The complete cream composition was discovered to be skin-safe.

Aim:

The goal of this research is to construct, develop, and evaluate theories about the history, constituents, preparation technique, characteristics, uses, and applications of moisturisers.

Objective:

Hydration, a decrease in acne and skin irritation, a decrease in skin diseases including dry skin and wrinkles, as well as an anti-aging and anti-inflammatory composition, are just a few of the varied aims of the herbal moisturising cream.

Result:

one. Four creams were created using different bases or optional ingredients, and multi effect was utilised to collect all the information. Four different formulations with 4% stearic acid, glycerine, glycerol monostearate, isopropyl monostearate, and aloe vera gel were selected as the best

Conclusion:

The research's findings unmistakably demonstrated a moisturising cream with great potential that had a certain ratio of stearic acid, waxes, and natural components. Thus, it may be inferred that the natural bases, such as ascorbic acid, are included in the moisturising cream in order to benefit from its beauty properties.

Key Words:

Natural Bases, invitro occlusivity, spreadability, moisturizing cream

1 Introduction

- **Definition:**

To make your skin feel softer and smoother, you moisturise it.⁽¹⁾

To preserve the skin's appearance and functionality, the water content of the stratum corneum and the surface lipids must be in balance. The skin is constantly exposed to numerous external factors because it is the body's outermost covering. Numerous endogenous and environmental stimuli have the potential to disrupt the skin's balance. Dryness, itching, redness, and tightness of the skin are just a few of the problems that can result from a disruption of the skin barrier. The most prevalent issue is water loss, which causes the skin to become dry and rough. The goal of moisturising cream therapy is to maintain the equilibrium, welfare, and integrity of the skin while also improving one's outward look of health. Different moisturisers fall into the categories of natural, organic, and herbal products, but they all have the core characteristics of humectancy, occlusivity, and emollience. Synthetic base-forming thickeners, emulsifiers, perfuming agents, adhesives, and surfactants make up the bulk of moisturisers on the market. The main demand of the day is to use harmful synthetic bases or agents in place of natural, herbal ones. Either plants or animals produce wax. Bee's wax, yellow bee's wax, carbo wax, and carnauba wax are among the common waxes used in cosmetics and pharmaceutical products. White bees wax is one of the most often found components in many cosmetic products because of the worldwide trend toward organic products and the usage of natural ingredients. Pressure filtering produces unbleachable white bee's wax. Stearic acid can be used to give cream a thicker consistency by acting as an emulsifier on its own. Stearic acid, which refers to a moisturising ingredient, can also be replaced with coconut oil.^(2,3,4,5,6,7,8,9)

- **Advantages:**

1. It keeps one from becoming dry.⁽⁹⁾
2. It helps to maintain skin hydration and promote skin suppleness.^(10,11)
3. Anti-aging moisturising cream will improve the health of your skin and help you feel and look younger.⁽¹¹⁾
4. A moisturiser that contains honey and aloe vera gel may easily absorb into skin and prevent skin flakes.⁽¹²⁾
5. Vitamin C, also known as ascorbic acid, may effectively attack dark spots and help to reduce them while supplying long-lasting moisture.^(13,14)

- **Disadvantages:**

1. Because cream might burn some skin types, it's not always a good idea to use it.⁽¹⁵⁾
2. Cream might aggravate skin that is already delicate.⁽¹⁶⁾
3. More zits may appear under certain conditions.⁽¹⁷⁾
4. Dry skin cause eczema problem worse.⁽¹⁸⁾

2 MATERIALS AND METHODS:

- **Materials:**

Anti-inflammatory and antioxidant properties can be found in stearic acid. Olive oil, Petroleum Jelly, Isopropyl Myristate, Beeswax, Glycerin, Propylene Glycol, Honey, Water, Ascorbic Acid (Anti-Aging), Perfume, and Potential.

- **Method of Preparation of Moisturizing Cream:**

These studies main objective was to develop a moisturizing-cream recipe devoid of cracking, physical instability, or phase inversion. The physical and chemical stability was evaluated 24 hours after manufacturing and storage at 25°C. Utilizing natural components, a moisturizing cream with several uses was produced. These creams provide smoothing, anti-aging, and hydration benefits. This cream contains stearic acid, olive oil petroleum jelly, glycerin, glyceryl monostearate, isopropyl myristate, propylene glycol, honey, and ascorbic acid as a potential anti-aging component. Olive oil, petroleum jelly, and white bees wax were initially used.

melted at 70–80°C to produce the cream with an oil–in–water emulsion. Following that, stearic acid, glycerol monostearate, and olive oil were added to the molten mixture. Aqueous phase, isopropyl myristate, propylene glycol, glycerin, ascorbic acid, honey, and water were heated to the same temperature as the oil phase. Both phases were progressively mixed together while being continually agitated to produce the homogenous dispersion. The addition of scent occurred when the temperature reached 35 °C. (2,3,4)

Ingredients	Quantity %	F1	F2	F 3	F 4
Petroleum jelly	1	-	1	1	1
Yellow bees wax	2	-	-	2	-
Lanoline	1	1	-	-	-
Stearic acid	4	4	4	-	-
Glycerine	5	5	5	5	5
Glyceryl monostearate	3	3	3	3	3
Propylene glycol	2	2	2	2	2
Honey	2		1	2	2
Aloe vera	2	2	1	-	-
Olive oil	8	8	8	8	8
Isopropyl Myristate	2	2	2	2	2
White Bees wax	2	-	-	-	2
Water	Q. s to 100	Q. S. To 100	Q. S. to 100	Q. S. to 100	Q. S to 100
Ascorbic Acid	2	-	-	-	2
Perfume & Preservative	Q. S	Q. S	Q. S	Q. S	Q. S

Formulation Table :

Table no 1: formula for moisturizing cream

3 Formulation Optimization:

Some components need to be replaced with more strong ones to make moisturizing cream. For example, olive oil may be used in lieu of mineral oil and honey can be used to soften skin instead of Aloe Vera gel. Additionally, the final Multieffective moisturizing cream contains beeswax for bright, healthy skin and ascorbic acid for anti-aging. Rose water is frequently used as a perfume with toning effects.

- **Evaluation for moisturizing cream:**

Cream goods were described using the terms spreadability, PH, viscosity, irritancy, kind of smear, removal, and dye test. (2,3,4,6,19,20,21)

- **Organoleptic characters:**

phase separation, homogeneity, PH, color, and smell.

- **PH Measurements:**

The PH of the 10% W/O emulsion was determined at 25 °C using a PH meter. (33)

- **Spreadability:**

To test the cream's spreadability, the following method was used: To assess the spreadability, first take a tiny bit of cream and spread it over your hand. Next, employ a different strategy. A second glass was placed on top of the first slide holding the test sample, and the 0.5 g test formulation was then put on it. A 500 g weight was permitted to rest on the upper slide for five minutes. The quantity of cream required to completely cover an area is referred to as spreadability. An increase in diameter gives the range once the sample has been scattered uniformly throughout the slide. On average, three outcomes were recorded.

- **Viscosity:**

A viscometer is used to examine the viscosity of the formulation. The sample was put inside the beaker and allowed to acclimatize for five minutes before being used to measure the record using the spindle at 10, 20, 30, 50, 60, and 100 rpm. For each speed, the relevant reading was taken.

- **Stability Study:**

The stability investigation is carried out via the organoleptic properties. The stability of the formulation is influenced by both chemical and physical factors. The stability of the formulation might be impacted by temperature and other environmental factors.

- **Thermal Stability:**

Thermal stability of the formulation was evaluated at 20°C, 40°C, and 60°C. (38)

4 Results and Discussion:

Evaluation Parameters	F1	F2	F3	F4
Organoleptic characters				
Colour	Creamish	Brownish	White	White
Odour	Pleasant	Pleasant	Pleasant	Pleasant
Texture	Smooth	Smooth	Smooth	Smooth
Homogeneity	Less homogenous	Homogenous	Homogenous	Homogenous
Phase Separation	No phase separation	No phase separation	No phase separation	No phase separation
Spreadability	Easily Spread	Easily spread	Easily spread	Easily spread
PH	5.66	6.43	5.30	6.03
Irritancy	Safe for use	Safe for use	Safe for use	Safe for use
Type of Smear	Greasy	Greasy	No greasy	Greasy
Removal	Easily removed	No Easily removed	Easily removed	Easily removed
Type of Emulsion (Dye solubility Test)	W/O Emulsion	W/O Emulsion	W/O Emulsion	W/O Emulsion

Table No.2: -Result and Discussion for Moisturizing Cream

5 Conclusion:

The findings of F1, F2, F3, and F4 indicate that F4 Carri's numerous impacts, such as anti-aging, provide more pleasure with respect to their outcomes. The F4 is more stable than the other three. F4 is more trustworthy and effective. F4 has the potential to produce strong vibrations and is also easy to regulate because to its high Spreadability. Additionally, it moisturises well compared to the other three formulations.

6 Future Scope:

Formulations gain market value in accordance with market analysis and environmental factors. By using a moisturizing cream, you may give your skin a softer, younger-looking appearance by making it more water-rich and less prone to evaporate. The secret component in moisturizers is thickeners, which help to keep the skin hydrated. Only a few applications for moisturizing creams include skin care, tissue healing, anti-aging, and other functions. Worldwide concerns over environmental pollution-related skin illnesses and other health-related problems have raised demand for moisturizing creams. The benefits of the all-natural, multifunctional goods are increasing demand for them. customer acknowledging the advantage. This is necessary for future generations.

References:

1. <https://www.collinsdictionary.com/dictionary/english/moisturizer#:~:text=A%20moisturizer%20is%20a%20cream,copyright%20C2%A9%20harpercollins%20publishers>
2. Dr. V. M. SHINDE, Mrs. K. S. BODAS YADAV, A Practical Book Of "HERBAL DRUG TECHNOLOGY", Niraliprakashan, First Edition-Feb 2021
3. https://www.researchgate.net/publication/329037096_FORMULATION_AND_EVALUATION_OF_MOISTURIZING_CREAM_CONTAINING_SUNFLOWER
4. <https://innovareacademics.in/journals/index.php/ijpps/article/view/28645/16009>
5. Multimer M. Spreadability Determination By An Apparatus. J Am Pharm Assoc 1956;45:212-4.
6. Baird. Analysis Of Creams And Lotions. In: Henry MD. Editor. Manual Of Cosmetic Analysis. USA; 1997. P. 32-3.
7. Flynn TC, Petros J, Clark RE. Dry Skin And Moisturizers. Clin Dermatol 2001;19:387-92.
8. Loden M. Biophysical Methods Of Providing Objective Documentation Of The Effects Of Moisturizing Creams. Skin Res Technol 1995;1:101-8
9. Awlins AVR, Anestrari DAC, Dobkowski B. Moisturizer Technology Versus Clinical Performance. Dermatol Ther 2004;17:49-6
10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5849435/> Julie MJ, Athira A, Verjina Cu, Vasudevan DT, Saritha AS. Formulation And Evaluation Of Antiaging Phytosomal Gel. Asian J Pharm Clin Res 2018;11:409-22.
11. <https://www.lux-review.com/6-Incredible-Benefits-Of-Using-Anti-Aging-Creams/>
12. <https://www.purple.com/magazine/article/get-useful-insights-on-the-use-of-aloe-vera-for-dry-skin>
13. <https://www.health.harvard.edu/blog/why-is-topical-vitamin-c-important-for-skin-health-202111102635#:~:text=Further%20vitamin%20can%20reduce,Of%20pigment%20in%20our%20skin>
14. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5605218/>
15. <https://www.makeupmuddle.com/why-does-my-moisturizer-burn-explanation/#:~:text=It%20could%20be%20that%20you%20have%20sensitive%20skin%20which%20means,Outermost%20layer%20of%20the%20skin>
16. <https://www.brightnewme.co.uk/five-ways-your-moisturiser-may-be-harming-your-skin/>
17. <https://www.beautycoursesonline.com.au/can-moisturizer-cause-acne/>
18. <https://www.webmd.com/skin-problems-and-treatments/eczema/best-moisturizer-eczema>
19. <https://www.sciencedirect.com/science/article/abs/pii/S0975357510800240>
20. Scholarly Articles For Taylor P. Ostwald Ripening In Emulsions. Adv Colloid Interface Sci 1998;75:107-63.
21. Julie MJ, Athira A, Verjina Cu, Vasudevan DT, Saritha AS. Formulation And Evaluation Of Antiaging Phytosomal Gel. Asian J Pharm Clin Res 2018;11:409-22.