

A Review on Herbal Moisturizer

Mr. Siddharth Baban pawar. Prof. Aaditee Gore. Dr. Megha T.Salve.

Department of B pharmacy

Shivajirao Pawar College of Pharmacy, Pachegaon, Dist:-Ahmednagar-413725.

Corresponding Author

Department of Pharmaceutics

Shivajirao pawar college of pharmacy Pachegaon,

Tel.Newasa Dist :- Ahmadnagar, Maharashtra 413725.

Email ID :- Siddharthpawar338@Gmail.com

Mobile No :- 8830632642

Abstract

Herbalism or Botanical medicine is generally used to describe Herbal Medicine, is the use of herbs for their therapeutic or medicinal value. The herb is a plant or plant part valued for its medicinal, aromatic qualities. Herbal cosmetics are the preparations used to improve the individual appearance. The aim of the present research study was to formulate the herbal moisturizer using different herbal plants such as Aloe vera, Cucumber, Neem along with glycerin, coconut oil, rose water, vitamin E, vitamin C and evaluate for its efficacy by physical appearance, pH, spreadability, Greasiness, irritancy, etc. for moistening, nourishing and cure of various disease of the skin. Compared to synthetic creams, herbal creams provide several benefits. The majority of currently available moisturizer provide more benefits 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 moisturizing creams, which nourish the skin without them. The only motive behind to choose the mixture of herbal product was to bring true upon the effectiveness of these formulation without any side-effects. According to the study gives the satisfied results.

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 antiinflammatory properties that reduce skin inflammation. Aloe is used to effectively heal chronic skin problems, such as 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)

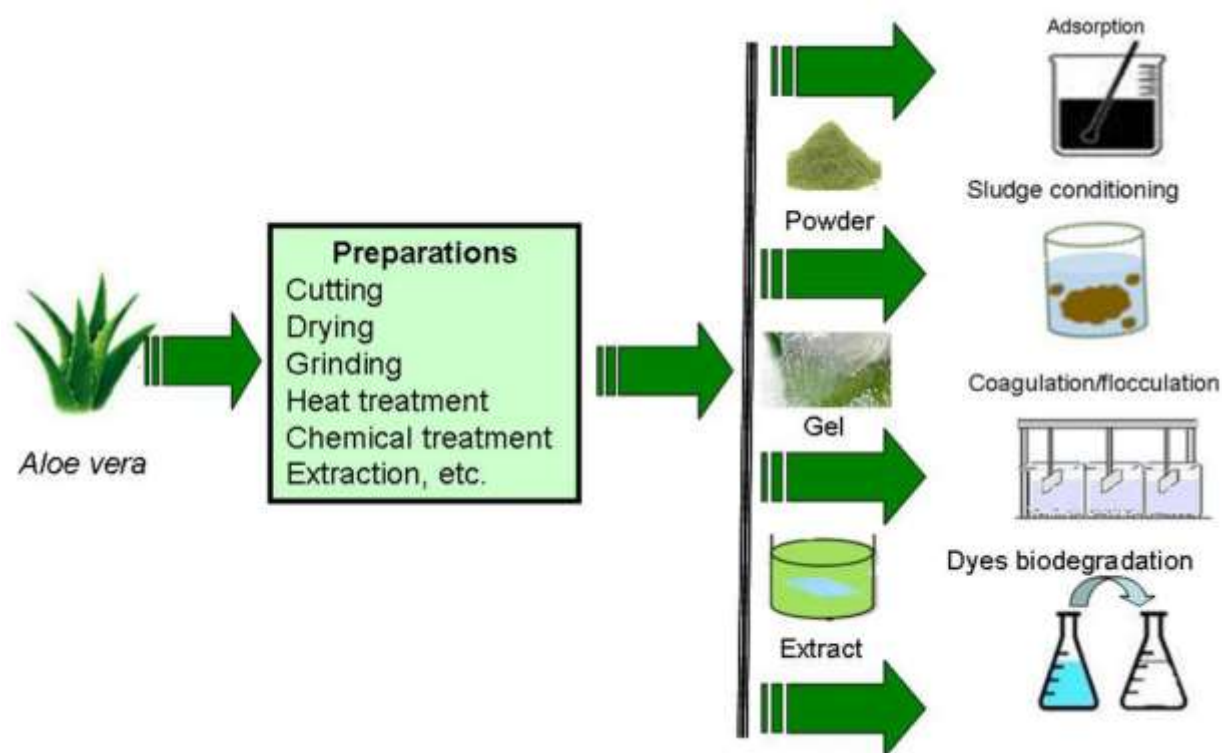


Figure No. 1: Extraction of Aloe vera gel from plant

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 barbadensis 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)

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)

Moisturizer:

A moisturizer is a cosmetic preparation used for protecting, moisturizing, and lubricating the skin and moisturizer is a liquid that is used for softening the skin, especially for naturally dry skins. They

increase the skin's water content by reducing evaporation. Moisturizers are designed to either impart or restore hydration. There are variety of moisturizer available in market. most of the available moisturizers use synthetic adhesives, emulsifiers, perfuming agents, pigments, surfactants and thickeners to form the base. There is extensive need to replace toxic synthetic agent by using natural herbs.

Ideal characteristics of moisturizer:

It should not be irritating and poisonous.

It should be non-inflammatory and non allergic.

It should be easy to spread over the skin and give pleasant feeling during application.

It should able to leave the skin feeling soft rather than sticky.

It should reduce dryness and improve dull appearance of skin.

Mechanism of Action of moisturizer:

Water regularly evaporates from the deeper layers of the skin of the human body, a phenomenon known as transepidermal water loss.

Human skin naturally maintains a dry, easily shed surface as a barrier against viruses, debris, or harm by managing its water content, while also keeping itself from drying out and becoming brittle and inflexible. The ability of corneocytes to retain moisture is determined by the lipid bilayer that exists between them.

Moisturisers alter the rate of water loss, with active substances falling into one of two categories: occlusives and humectants.

□ Occlusives generate a layer on the skin's surface that prevents moisture from escaping. The more occlusive the formulation, the stronger the effect. Ointments are more occlusive than aqueous creams, which are more occlusive than lotion. Water loss through the skin is normally about 4-8 g/(m²-h). Petrolatum can minimise that loss by 50-75% for several hours when applied to normal skin. The human body naturally produces oils that moisturize using the same process.

□ Humectants take up moisture. When the humidity is above 70%, they can absorb this water from the air and moisturise the skin, but more frequently, they suck water from the dermis into the epidermis, drying up the skin. Water is a common ingredient in moisturizers, serving as both a brief hydrating agent and a conduit for the absorption of some ingredients and the evaporation of the moisturizer.

Advantages:

1. The main advantage of herbal moisturizer is that it enhances the Skin Dryness without any side effects.
2. It reduces the further chances of skin problems.

3. This moisturizer helps to fight wrinkles.
4. Less greasy compared to other ointments
5. Moisturizing help your skin stay young.
6. With small quantity they are very effective as compared to synthetic cosmetics.

Disadvantages:

1. Herbal drugs have slower effects as compare to Allopathic dosages form Also it requires long term therapy.
2. Manufacturing process are time consuming and complicated.
3. Most of herbal drugs are not easily available.
4. They are difficult to hide taste and odor.
5. Less stable as compare to ointment.

Topical Drug Delivery:

Drugs have been administered to the human body by a variety of routes throughout the past few decades, including oral, sublingual, rectal, parental, topical, inhalation, etc., to cure illnesses.

Topical delivery is the application of a drug-containing formulation to the skin to treat a cutaneous disorder or the cutaneous manifestations of a general disease (such as psoriasis), with the goal of containing the pharmacological or the effect of the drug to the surface of the skin or within the skin.

Semisolid formulations in all their variety predominate the system for topical delivery, but foams, spray, medicated powders, solutions, and even medicated toothpaste can also be used

Material and Methodology:

Collection of Herbs: The Herbs including Aloe vera, Neem, Cucumber were collected from garden of my house. Moisturizing agent delivers smoothing property to the skin. Auxin and gibberellins are two hormones found in aloe vera gel. These two hormones have anti-inflammatory effects that lessen skin irritation and promote wound healing. Psoriasis, acne, and eczema are just a few of the chronic skin conditions that aloe is used to effectively treat.

Aloe Vera –

The Aloe vera plant has been known and used for centuries for its health, beauty, medicinal and skin care properties. It is also known as miracle plant. Today, the Aloe vera plant has been used for various purposes in dermatology such as treatment of acne , glowing skin , hydrate the skin, etc.

Synonyms: Aloe, Musabbar, Kamari.

Biological source:Aloes are the dried juice obtained by transversely cut

leaves of various species of

- Aloe barbedensis Miller,
- Aloe perryi Baker ,
- Aloe spicata Baker and Aloe Africana Miller.



Family: Liliaceae

Chemical constituents: Anthracene glycosides(11 to 4),Barbaloin, Isobarbaloin, aloe-emodin and aloesone.Resins (resinotannol +cinnamic acid or coumaric acid).Also contains Aloetic acid, homonataloin etc.

Uses : Purgative, Laxative , Used for Ulcers and burns, Aloe found many uses in cosmetics nowadays like, Hair conditioner, Hand and body lotion, Moisture base cleanser, Shampoo and facewash



Cucumber:

Cucumbers are great for dehydrated skin due to its hydrating properties and oily skin due to its astringent properties. They are also suitable for sensitive or irritated skin. Fresh cucumbers can be used directly on your skin to tighten it. Cucumber extract is anti-inflammatory and soothes skin. It may also help with dark circles

and puffiness around the eyes. Rich in minerals like potassium, it may help firm skin which can help reduce some of the signs of aging.

Synonym: cucumber, Khira

Biological source : it is fruit which is obtained from plant *cucumis sativus*.

Family: cucurbitaceae

Chemical constituents : water (95%) and small amounts of protein (0.6%), lipids (0.1%) and carbohydrates (2.2%).

Neem:

The use of neem as a medicinal herb is fairly common. Because of their antibacterial, anti-inflammatory, antioxidant, and therapeutic characteristics, neem leaves and their extracts are frequently utilised. Fatty acids, vitamins, and minerals that are essential for good skin and hair are abundant in this wonderful herb. It contains medicinally effective active ingredients including nimbidin, nimbolide, and azadirachtin that can help

you treat any skin and hair issues.

Synonym: Neem, Nimtree, Margosa,



Biological sources: It consists of leaves and other aerial parts of *Azadirachta indica*.

Family: *Meliaceae*

Chemical constituents: Azadirachtin, Nimbin, Nimbidin, Nimbidol, Salannin, Quercetin, etc.

Uses: anti-fungal, anti-bacterial, anti-inflammatory, antiarthritic, antipyretic, hypoglycemic, anti-gastric ulcer, and antitumor activities, etc.

❑ Extraction of Aloe Vera :

- ❑ Aloe vera leaves must first be collected from a botanical garden, cleaned with distilled water.
- ❑ Then the outer portion of the leaf must be chopped longitudinally with a knife.
- ❑ Then, we took out colourless parenchymatous tissue and placed it in a 400 ml beaker.
- ❑ Next, using a stirrer mixer, we must stir the aloe vera gel.
- ❑ After that, it was filtered to remove various contaminants using muslin cloth.
- ❑ Finally, cover the beaker with filter paper or silver foil to protect it from microbial development and other environmental effects.

❑ Extraction of Cucumber with Glycerin :

- ❑ Firstly take a fresh cucumber and wash it.

- prepare the cucumber by peeling it and slicing it.
- After sliced the cucumber, it can further cut it into smaller pieces that fit well into the container which is use for the extraction process.
- Take a clean glass jar and Add the cucumber pieces to the jar ,cover them with weigh amount of glycerin.
- Cover the jar with silver foil paper and set it aside for a few days.
- After a few days, there more significant changes in the appearance of the cucumber pieces. At this point, you can strain them out.

Evaluation Test For Moisturizer:

- a. Physical evaluation:** This mostly serves to evaluate the cream's colour, odour, texture, and stability.
- b. Viscosity:** Basically, the purpose of this test is to determine how the ingredients in cream will behave in real life. Its primary purpose is to evaluate efficacy.
- c. Washability:** The quality of cream is also tested using this method. In this first of all we have to add small amount of cream which was applied on the hand. We must then wash with tap water after that.
- d. Irritancy:** The cream was applied on left hand dorsal side surface of 1 sq.cm and observed in equal intervals up to 24hrs for irritancy, redness and edema. The did not produce any irritation or redness on skin.
- e. Spreadability:** The spread ability test showed that the formulated cream has good spreadable property.
- f. Greasiness:** This test is mostly used to determine whether cream is greasy or oily in nature. We can conclude from the results that none of the formulations were greasy.
- g. pH test:** Basically, this is talking about how acidic different compounds are. The pH (cream) range is often between 4 and 7. Either a digital pH metre or pH paper was used to measure the results of this test.
- h. Phase separation:** Generally, this test is checked every 24 to 30 hours. For this, cream must be heated to between 30 and 80 °C in a covered container. Keep this mixture out of the light.

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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