SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

TO FORMULATE AND EVALUATION OF MOISTURIZING CREAM BY USING CUCUMBER EXTRACT

Khambayatkar Shruti M.[1], Sachin Dighole [2], Maniyar Alfisha[3]
Department Of Pharmaceutics, Institude Of Pharmacy, Badnapur , Jalna -431203 (MS) .India .

ABSTRACT
The main purpose of herbal cosmetics is to enhance and preserve an individual's appearance. A moisturizing cream is a semi-solid substance used to improve skin tone. Herbal creams are superior to synthetic creams in various ways. Most of the face creams that are currently on the market are composed of synthetic drugs and offer increased facial fairness; however, they also come with a number of unfavorable side effects, such as allergic reactions and inflammation. Herbal creams do not have any side effects; instead, they nourish the skin. Creating and testing a herbal moisturizing cream using cucumber extract, glycerine, rose water, and vitamin E capsules was the goal of the current study project. The herbal cream stated above was evaluated according to several criteria, such as pH, viscosity, greasiness, washability,appearance (colour), and homogeneity by visual and tactile means.
KEYWORD: *emollients ,cosmetics , dry skin., hydrated skin , antiwrinkle, antioxidant.*

INTRODUCTION

One of the most popular cosmetic preparations, moisturizers are utilized extensively to help customers' skin feel softer. Moisturizers are useful in the fight against dry skin, which can result in tingling, stinging, soreness, tightness, and/or itching. This review's objective is to assess published research on the background, components, methods of preparation, traits, functions, and applications of moisturizers. Because moisturizers improve the appearance and health of skin, they serve as a link between consumer goods and medicine. Creams are emulsions that are semisolid and are meant to be applied to the skin or mucous membranes. The cream might be thick and sticky or water-miscible and easily removed, depending on the water to grease ratio. It's the most frequently recommended topical medication.One of the most popular cosmetic preparations, moisturizers are utilized extensively to help customers' skin feel softer. Moisturizers are useful in the fight against dry skin, which can result in tingling, stinging, soreness, tightness, and/or itching. This review's objective is to assess published research on the background, components, methods of preparation, traits, functions, and applications of moisturizers. Because moisturizers improve the appearance and health of skin, they serve as a link between consumer goods and medicine. Creams are emulsions that are semisolid and are meant to be applied to the skin or mucous membranes. The cream might be thick and sticky or water-miscible and easily removed, depending on the water to grease ratio. It's the most frequently recommended topical medication.

WHY DO WE NEED MOISTURIZERS?

Maintaining a healthy skin appearance is crucial because poor presentation might lower one's self-esteem. Using moisturizers on a regular basis helps smooth out fine wrinkles on the skin and hydrate it, all of which can enhance a patient's quality of life, social life, and psychological well-being. Furthermore, the right use of moisturizers can be quite beneficial for both normal skin and dermatoses with signs of dry skin. The impression of dry skin is characterized by alterations in the skin's sensory components and visual and tactile changes, which manifest as symptoms of dry skin. Tightness, soreness, itching, stinging, and tingling are some of the discomforts and dryness sensations that accompany these symptoms. When used in conjunction with moisturizers, dermatoses that cause dry skin can be effectively conquered, breaking the cycle of dry skin and preserving skin smoothness. (6)

SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

PHYSIOLOGY OF HUMAN SKIN

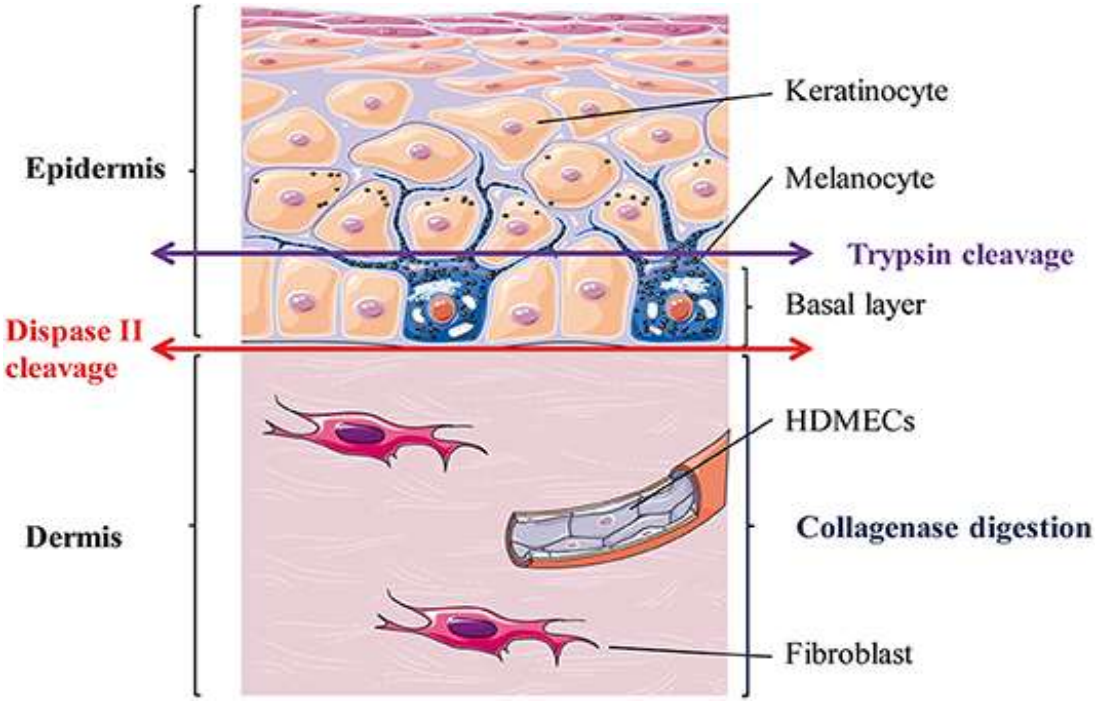


Figure 1 Skin

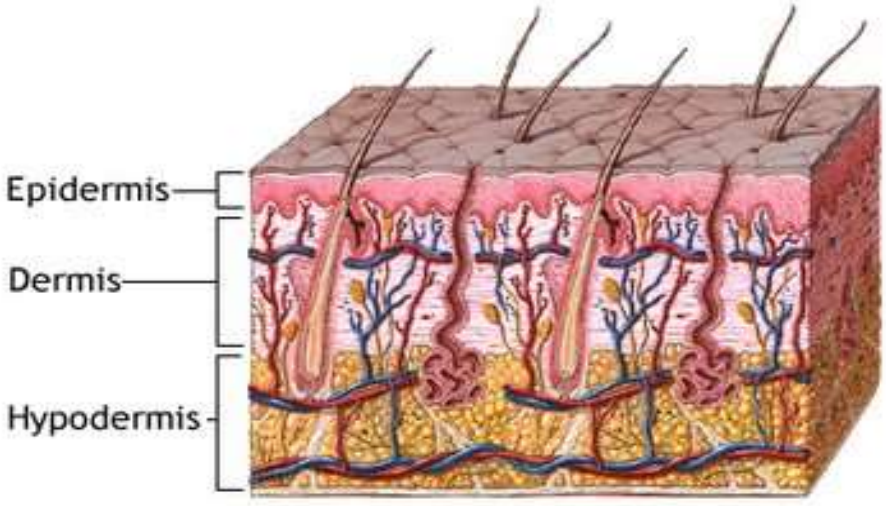


Figure 2 Skin

Epidermis

The stratified keratinized scaled epithelium that makes up the epidermis, the topmost subcaste of skin, varies in consistence depending on the area of the body. The triumphs of hands and the soles of bases have the loftiest attention of it. The epidermis lacks blood vessels and whim-whams consummations, but the dermis's interstitial fluid, which supplies nutrition and oxygen and escapes as lymph, is submerged in its deeper layers.

Dermis

The dermis is elastic and hardy. It's made of connective towel, and the matrix is made up of collagen and elastic filaments entwined. Stretch marks, also known as patient striae, are a result of the rupture of elastic filaments in the skin, which can be during gestation or after rotundity. Wrinkles appear as a result of the aging process because collagen filaments lose their capacity to bind water and

SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

give the skin its tensile strength. The primary cells in the dermis are mast cells, fibroblasts, and macrophages. Varying situations of adipose(fat) towel and areolar towel taradiddle under its deepest subcaste.

Subcutaneous Gland

These are made up of secretory epithelial cells that come from the hair follicle's source towel. They're set up in the skin of every area of the body, with the exception of the triumphs of the hands and the soles of the bases, and they transude an unctuous material called sebum into the hair follicles. The skin of the groin, axillae, crown, and face has the loftiest attention of them. Sebaceous glands that are independent of hair follicles cache sebum directly onto the face in locales where one kind of superficial epithelium transitions into another, similar as the lips, eyelids, nipple, labia minora, and glans penis. (1)

Uses

•Certain skin conditions include psoriasis, ichthyosis vulgaris, xerosis, and pruritus in atopic dermatitis are treated with moisturizers. Constantly, they serve as bases or carriers for topical medicines, such those set up in Whitfield's ointment. They're constantly used with humectants like urea and salicylic acid.

• Skin cleaners, sunscreens, antiperspirants, paring creams, aftershaves, and hair mixers are among the products that constantly contain moisturizers.

• To avoid hankie dermatitis and dry skin, throwaway towels include moisturizers. (7)

Advantages of Moisturizers

• Moisturizing reduces the chances of skin problems.
• Moisturizing can reduce the appearance of other mars
• Moisturizing helps your skin stay youthful.
• Moisturizing fights wrinkles.

Disadvantages of Moisturizers

• Over – moisturization • Allergens • Fire threat

Benefits of cucumber on Skin

1) keep pustules and acne off face
2) keeps the skin healthy and toned
3) Helps the combat signs of unseasonable aging
4) A great source of hydration
5) Combats free revolutionaries
6) Relieves fatigue and under eye bags
7) Helps with fluffy eye

Marketed product

1. CUCUMBER MOISTURING CEAM
2. PINK ROOT CUCUMBER CREAM
3. FEEL HIGH CUCUMBER MOISTURING CREAM.
4. GOOD VIBS CUCUMBER MOISTURING FACE GEL
5.DR. RASHEL CUCUMBER GEL
6. LUVYH ADVANCE CUCUMBER FACE PACK.
7. BIO CARE CUCUMBER COOL REJUVENATING MOISTURING CREAM

FORMULATION

Aim : Formulation and Evaluation of herbal moisturizing cream.

Objects

- To reduce acne and skin vexation, reduce skin conditions, dry, skin, wrinkles, etc
- To enhance gleam to the face

Need of work

1. When compared to the other beauty products that are extensively available, natural cosmetics are the most effective and safe to use.

SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

2. Suitable for any type of skin. Anybody with any kind of skin can use them without ever having to worry about their skin getting worse.
3. No adverse responses.
4. A herbal product is one that's created from botanicals, or shops, and is used to cure ails or save health.
5. The natural constituents in botanicals nourish the body nutrients and other salutary minerals without having any negative impact on mortal health.
6. The maturity of ornamental products suffer original beast testing to guarantee their safety and efficacity before being made available for mortal use. But testing natural cosmetics isn't necessary . These natural phrasings are tested by Ayurvedic Experts in laboratories using state of the art outfit with no creatures involved.
7. Natural cosmetics aren't that precious. In fact, they're fluently available at low cost. (6)

MATERIAL AND METHODS

Cucumber



Kingdom:	Plantae
Clade:	Tracheophytes
Clade:	Angiosperms
Clade:	Eudicots
Clade:	Rosids
Order:	Cucurbitales
Family:	Cucurbitaceae
Genus:	*Cucumis*
Species:	***C. sativus***

Figure 3

The cucumber(Cucumis sativus) is a extensively- cultivated creeping vine factory in the family Cucurbitaceae that bears spherical to globular fruits, which are used as culinary vegetables. Considered an periodic factory, there are three main types of cucumber — slicing, pickling, and seedless — within which several cultivars have been created. (12) (13)

Benefits of Cucumber

1. Keep Pimples and Acne Off your Face According to studies on the benefits of cucumbers for skin, this delicious fruit regulates the quantum of sebum produced in our skin pores. The skin's sebaceous glands cache slithery substances that block skin follicles and beget acne and other skin issues in the long run. Cucumber is a useful remedy for acne that heals mars, congested pores, and slithery skin.

2. Keeps the Skin Healthy and Toned This green tube gives you a naturally radiant gleam and helps you keep your body toned and healthy when consumed withmeals.However, cucumber's antioxidant content helps to keep your skin moisturized and supple for longer, If applied or ingested regularly.

3. Helps Combat Signs of unseasonable Aging Antioxidant factors set up in cucumbers can help wrinkles. Vitamin C and folic acid are also present. Vitamin C promotes the conformation of new skin cells, while folic acid aids in the skin's defense against adulterants from the terrain. These constituents give your skin a firmer, more immature, and healthier appearance.

4. A Great Source of Hydration Antioxidant factors set up in cucumbers aid in wrinkle reduction. It also has vitamin C and folic acid. Vitamin C promotes the creation of new skin cells, while folic acid aids in the skin's defense against outside adulterants. These constituents make your skin look tighter, youngish, and healthier. Birth procedure of cucumber Cucumber excerpt is relatively simple to make and only uses two main constituents cucumber and vegetable glycerin. Voluntarily, you can save the finished excerpt with a natural preservative. (12)

Steps

1) Making the extract is very simple.
2) First, prepare the cucumber by peeling it and slicing it.
3) Once you have sliced the cucumber, you can further cut it into smaller pieces that fit well into the container you plan to use for the extraction process.

SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal



Figure . 4

4) I used a clean glass jar. (Ideally, use one that is clean from the dishwasher, or rinse it, after cleaning it, with very hot water to help sanitize it.)
5) Add 38.90 gm the cucumber pieces to the jar and cover them with 65 gm vegetable glycerine. It's a good idea to weigh the amount of glycerine added so that you can later determine how much water from the cucumber has been extracted into the glycerine.
6) After adding in the glycerine mix for some second.
7) Seal the jar (airtight) and keep for 15 days in cool area in the lab away from direct sunlight
8) It is important to shake for some few seconds at least once a day .
9) After days strain your cucumber extract through a cheese cloth.
10) extract is ready to used. (14)



After few hours



After 15 days

Requirement

A) Chemical

1 coconut oil	44 g
2. Bees wax	10 g
3. Stearic Acid	5 g
4.vegetable glycerine	4 g
5. Xanthan	0.40 g
6. cucumber extract	8.40 g
7. essential oil	2 g

Table . 1

SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

B) Apparatus

:	1. Beaker
	2. Stirrer
	3. Weighing Balance

Table . 2

Procedure

1. 44 gm coconut oil put coconut oil in a beaker or a heat resistant cup.
2. 10 gm emulsifying wax bee's wax.
3. mix above both ingredient and add 5 gm stearic acid to beaker as well keep aside.
4. Take another beaker put 120 gm of distilled water into the beaker.
5. take 4-gram vegetable glycerine and 0.40 gm xanthan gum clear, add the xanthan gum clear to the glycerine and mix well they blend well.
6. Add the xanthan gum mixture to the water and mix till blends well with the water.
7. Heat the water phase respectively to 75 Celsius using the double boil method
8. When they are ready, take out of the beaker
9. pour the water phase into oil phase.
10. first mix with a hand stirrer for about one minute.
11. then mix with stick blender for about 3 minute and mix again with a hand mixer.
12. when the mixture homogenises and the temperature is around 40 Celsius.
13. add active ingredients 8.40 gm cucumber extract and mix well.
14. add 4 gm vitamin E mix and add 2.2 gm neem oil as a preservative and mix well.
15. add in 2 gm perfume oil or one gm essential oil.
16. give it one final mix with electric hand mixer for about 2 minutes.

EVALUATION TESTS OF CREAM

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

2) Irritancy :This is used to check the quality of accoutrements as well as chemicals and whether it's dangerous to skin/ mucosal or not. First of all, we've to mark area on left hand(rearward face). After that we've to applied expression of cream to that area and time was noted. Also we've to leave expression for many twinkles 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've to add small quantum of cream which was applied on the hand. After that we've to washed with valve water.

4) pH test : This is principally pertaining to acidity situations of substances. The normal value of pH(cream)) is pH 4- 7. This test was measured either by using digital pH cadence or by pH paper.

5) Phase separation : This test is principally checked in 24 hr to 30 hr. For this we've to put cream in a unrestricted vessel at a temperature(30 – 80 °C). Keep this expression down from light.

6) density: This test is principally used to check or prognosticate how accoutrements used in cream will bear in the real world. It's substantially used to check efficacity.

7) Greasiness : This test is principally used to check nature of cream either unctuous or oiled. According to result we can say that all phrasings werenon-greasy.

RESULTS

1) Physical evaluation	GOOD
2) Irritancy	**NO**
3) Washability	**GOOD**
4) pH test	**SUITABLE (5.6 PH)**
5) Phase separation	**NO**
6) Viscosity	**GOOD**
7) Greasiness:	**GOOD**

Table. 3

DISCUSSION AND CONCLUSION

The Advantage of herbal cosmetics is their non-poisonous nature . herbal cream are provide several benefits .the use of cucumber extract as the active ingredient in moisturing cream make skin hydrated and antiwrinkle . there is no side effect that occur herbal cream . different type of skin disease can be treated by using moisturing cream. The herbal Cucumber moisturing cream containing natural ingredients to make it natural product or healthy product for skin .we have in this manner found great properties for the Cucumber cream in the current procedure and enjoyed to make an herbal moisturising cream and found the gainful benefits of cucumber moisturing cream.

SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

REFERENCES

1. *Ross and Wilson. Anatomy and Physiology in Health and Illness, 11e.*
2. *Aswal A, Kalra M, Rout A. Preparation and evaluation of polyherbal cosmetic cream. Der Pharmacia Lettre. 2013;5(1):83–88.*
3. *Ubaid M, Ilyas S, Mir S, et al. Formulation and in vitro evaluation of carbopol 934-based modified clotrimazole gel for topical application. An Acad Bras Ciênc. 2016;88(4):2303–2317*
4. *H, K. M. (2006). Proper choice of base of topical medicaments. Medical Bulletin, 11(9), 7-8*
5. *FORMULATION AND EVALUATION OF HERBAL MOISTURIZING CREAM AUTHOR NAME: Kajal Nivrutti Tangadkar, Talekar Sakshi Karbhari,Shinde Ashok Lahu, Prof.Akshada Dilip Suryawanshi*
6. *Formulation and Evaluation of Herbal Moisturizing Cream Arun Kumar, Divyansh*, Neha Ansari, Rahul Shukla, Gangeshwar Pratap Singh*
7. *Loden M. The clinical benefit of moisturizers. J Eur Acad Dermatol Venereol. 2005;19(6):672–688, quiz 686–687. [PubMed] [Google Scholar]*
8. *Lodén M. Role of topical emollients and moisturizers in the treatment of dry skin barrier disorders. Am J Clin Dermatol. 2003;4(11):771–788. [PubMed] [Google Scholar]*
9. *Ginsburg IH. The psychosocial impact of skin disease. An overview. Dermatol Clin. 1996;14(3):473–484. [PubMed] [Google Scholar]*
10. *Baumann L. Moisturizing Agents. In: Baumann L, editor. Cosmetic Dermatology- Principles and Practices. 1st ed. New York: Tata McGraw Hill; 2002;93–99. [Google Scholar]*
11. *Diana Darel's Z. Therapeutic moisturizers. Dermatol Clin. 2000;18(4):597–607. [PubMed] [Google Scholar]*
12. *"Cucumber." Encyclopædia Britannica. [1998] 2019.*
13. *Silvertown, Jonathan (1985). "Survival, Fecundity and Growth of Wild Cucumber, Echinocystis Lobata". Journal of Ecology. 73 (3): 841–849.* doi:10.2307/2260151. JSTOR 2260151.
14. *Review on Cucumber Lotion as Skin Care Product Kartiki U. Jadhav, Manisha Kale Mam Department of Pharmacutics, Dr Naikwadi College of Pharmacy Jamgaon Sinnar. Dr. Naikwadi College of Pharmacy Jamgaon Sinnar. Contact no 7391803804, Email id:- kartikijadhav2002@gamil.com*