



## Research Article

# Formulation And Evaluation Of Multipurpose Herbal Cream

Aman Shaikh, Tejashree kedar, Abubakar Shaikh, Sohel Shaikh, Naziya pathan

Arihant college of pharmacy, Ahmadnagar 414001

### ARTICLE INFO

Received: 02 June 2024

Accepted: 12 June 2024

Published: 28 June 2024

#### Keywords:

Aloe vera, Cucumber extract, Curcumim extract, Face cream, Formulation, Evaluation.

#### DOI:

10.5281/zenodo.12583271

### ABSTRACT

Herbal cold cream are semi solid preparation used for the complexion of the face, enhance the appearance The main aim to this research work to prepare a herbal cold cream from using different herbs and prepare a herbal face cream to evaluate the efficacy The formulated herbal cold cream is evaluated for the various parameters like organoleptic properties, pH, stability, consistency, homogeneity and appearance.

Herbal cosmetics are products that are used to enhance one's look. The goal of the research was to develop a herbal cold cream for moisturizing, nourishing, enhancing whitening, and treating various skin diseases. Curcu-ma longa (Turmeric powder), cucumber extract, Aloe barbadensis (Aloe-vera leaves), and Ocimum sanctum (Tulsi leaves) are some of the basic herbs used to make the herbal cold cream. The selection of components is based on various therapeutic characteristics.

### INTRODUCTION

Cream is described as semi solid emulsions of the water in oil (w/o) or oil in water (o/w) type that are meant to be applied externally. Cream is divided into two categories: water in oil emulsion and oil in water. Its primary function is to stay longer at the application site when applied to the outer or superficial layers of the skin.


Creams serve a variety of cosmetic functions, including cleansing, beautifying, modifying appearance, protecting, and therapeutic. These topical preparations are intended to deliver drugs locally, into the mucous membrane or the skin's underlying layer. These products are intended to

be used topically to improve the drug's site-specific delivery to the skin.

Since creams are made using methods developed in the pharmaceutical industry, they are regarded as pharmaceutical products. Both medicated and unmedicated creams are widely used to treat dermatoses and other skin problems. People can utilize creams that are allopathic, herbal, or ayurveda based on the demands of their individual skin issues. They include one or more drug ingredients that have been dissolved or spread in an appropriate base.

\*Corresponding Author: Aman Shaikh

Address: Arihant college of pharmacy, Ahmadnagar 414001

Email : [amanshaikh17122002@gmail.com](mailto:amanshaikh17122002@gmail.com)

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



## ❖ Types of skin cream

### ➤ Water-in-Oil (W/O) creams: -

Creams called Water-in-Oil (W/O) are made of tiny water droplets scattered throughout an oily phase that is constant. The emulsion is of the water-in-oil type when the dispersed phase is water and the dispersion medium is oil.

### ➤ Oil-in-Water (O/W) creams: -

Creams that contain small oil droplets distributed in a continuous phase are known as oil-in-water (O/W) emulsions. On the other hand, an emulsion in which the oil is distributed as droplets throughout the aqueous phase is called an oil-in-water

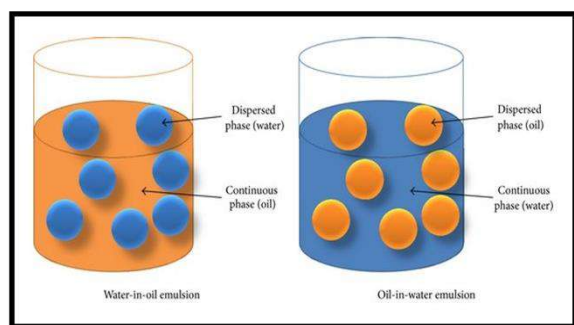


Fig no.1

## ❖ Classification of Cream: -

1. According to the nature or type of emulsion
2. According to characteristics properties, e.g. cold creams, vanishing creams
3. According to function, e.g. cleansing, foundation, massage, etc.

## ❖ Types of creams based on nature of emulsion, characteristics property and its function

1. Make-up cream (o/w emulsion): a) Vanishing creams. b) Foundation creams.
2. Cleansing cream, Cleansingmilk, Cleansing lotion (w/o emulsion)
3. Winter cream (w/o emulsion): a) Cold cream or moisturizing creams.
4. All-purpose cream and general creams.
5. Night cream and massage creams.
6. Skin protective cream.
7. Hand and body creams

The main objective is to develop a herbal cream that serves as a moisturizer, reduces acne and skin irritation, reduces the appearance of skin conditions like psoriasis, eczema, dry skin, wrinkles, rashes, etc., and also makes the face look more radiant. Three natural ingredients—aloe vera gel, turmeric, cucumber —were used in our preparation. Aloe Vera gel is applied as a moisturizer, used to heal burn wounds, and used to lessen acne and pimples . Turmeric is applied topically to alleviate pigmentation, scarring, and inflammation [1, 4]. Cucumber is applied topically to enhance skin radiance and facilitate wound healing.

## ❖ Method: -

**Acquisition of botanical specimens: -** Aloe Vera, Turmeric extract, cucumber extract

## Extraction process: -

- 1) Aloe Vera Gel
- 2) Extraction of Turmeric
- 3) Extraction of cucumber
- 4) Tulsi leaves

## 1. Aloe vera: -

**Synonym:** Ghritkumari, Musabbar

**Biological source:** Aloes is obtained from dried juice of leaves of aloe species such as Aloe barbadensis, Aloe ferox, Aloe perryi

**Family:** Liliaceae

**Chemical constituent:** Principle active constituent of aloe is aloin (upto30%) and aloin is a mixture of isomer - barbaloin, iso barbaloin



Fig no 2: Aloe vera

### Aloe vera benefits for the face

- Aloe vera is rich in moisturizing properties;
- it helps to remove dead cells;
- it can prevent or reduce wrinkles and dark spots on your face;
- it soothes irritated skin;
- it reduces pain, swelling, and soreness of wounds or injuries;
- it has a cooling effect on rashes or sunburns;
- it supports the production and release of collagen
- it helps to keep your face healthy and gives you a natural shine;
- Combats acne and blemishes;
- eliminates dead skin cells; treats sunburn;
- relieves eczema and psoriasis; and removes puffiness and dark circle
- impart a healthy glow to the skin
- Reduces stretch marks and delays the onset of aging

### 2.Turmeric

**Synonym:** Saffron Indian; haldi (Hindi); Curcuma; Rhizoma cur-cumae.

**Biological source:** Turmeric is the dried rhizome of *Curcuma longa* Linn. (syn.*C.domestica* Valetton),.

**Family:** Zingiberaceae,

**Chemical constituents:** curcuminoids (5%) and essential oil (6%).



**Fig no.3: Curcuma longa**

### Turmeric uses for skin: -

- Powerful antioxidant
- Natural anti-inflammatory compound
- Improves skin health

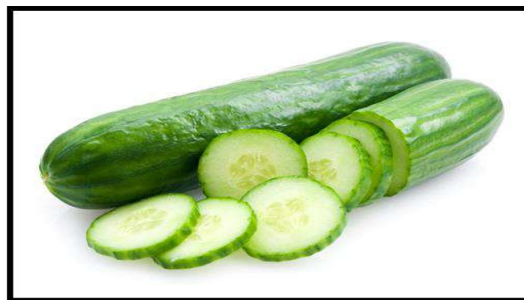
- Cures acne
- Diminishes dark circles;
- May help with psoriasis and eczema;
- Skin is cleared and wound healing is aided.

### 3. Cucumber: -

**Synonym:** Cucumis sativus L

**Biological Source:** It is derived from the plant cucumis sativus

**Family:** Cucurbitaceae



**Fig no.4: Cucumber**

### Uses:

Healthy connective tissue, which includes muscles, tendons, ligaments, cartilage, and bone, depends on silica, which is found in cucumbers. Cucumber juice is often suggested as a silica source to enhance skin tone and health; also, cucumbers naturally hydrate the skin, which is essential for glowing skin.

### 4.Tulsi leaves: -

**Synonym:** *Ocimum tenuiflorum*, commonly known as holy basil

**Biological source:** Tulsi consists of the fresh and dried leaves of *Ocimum* species like *Ocimum sanctum*L. and *Ocimum basilicum* L. etc.

**Family:** Lamiaceae.

**Chemical constituents:** - The Tulsi plant contains numerous active compounds and the major compounds are linalol, eugenol, methyl chavicol, methyl cinnamate, linolen, ocimene, pinene, cineol, anethol, estragole, thymol, citral, and camphor.



**Fig no. 5: Tulsi (Osmium tenuiflorum)**

**Uses: -**

- Tulsi helps in skin brightening.
- Tulsi helps in curing acne face marks.
- Tulsi can help in tightening skin pores.
- Tulsi helps in curing skin infections and any sort of skin allergies.
- fights acne; promotes healthy skin aging
- It eases eczema; works wonders for treating skin conditions
- It is a good source of vitamin K is extremely useful for skin
- It aids in anti-aging

❖ **General Ingredients: -**

➤ **Water-**

In every cream procedure, this is the most significant and frequently utilized raw ingredient. These are the most accessible and affordable. Water is a solvent used in skin creams to dissolve other components. Creams are prepared with water, which is devoid of all pollutants, toxins, germs, and other contaminants. Water can also create emulsions; the amount of water used in the formulation determines whether the emulsion is called water-in-oil or oil-in-water, dependent on the amounts of water and oil phase employed in the formulation

➤ **Liquid paraffin: -**

Liquid Paraffin is an emollient (substance that softens or soothes the skin). It works by preventing water loss from the outer layer of skin. This relieves dryness and leaves the skin soft and hydrated.

Liquid Paraffin is used in the treatment of dry Skin. It relieves dry skin conditions such as eczema, ichthyosis and pruritus of the elderly.

➤ **Beeswax: -**

In skincare, its function ranges from its role as an occlusive, helping to create a semi-occlusive skin barrier that minimizes transepidermal water loss; as a humectant, locking in hydration; and an emollient to soften and soothe the skin.

➤ **Borax: -**

Creams made with only beeswax need to be thoroughly mixed and can separate when left to stand. As a result, little amounts of borax were applied after the beeswax. Beeswax's fatty acids were saponified by borax, which made the cream more stable.

➤ **Methyl paraben: -**

The most common use of methyl paraben is as an antimicrobial preservative in cosmetic products. Preservatives such as methyl paraben are used to prevent the growth of pathogens and stop undesirable chemical changes from occurring.

➤ **Lavender oil: -**

Lavender oil can benefit the skin in numerous ways. It has the ability to lessen acne, help even skin tone, and reduce wrinkles

Lavender oil can also be used to treat psoriasis. The lavender oil helps cleanse your skin and lessen redness and irritation.

❖ **List of ingredients: -**

➤ **Formulation table: -**

Ingredients	Category	Quantity
Aloe vera gel	Herbal extract	0.5gm
Cucumber	Extract	3ml
Turmeric	Extract	0.2ml
Tulsi	Extract	0.1 ml
Liquid paraffin	Emollient	10 ml
Beeswax	Humectant	3gm

Borax	Buffering agent	0.2gm
Methyl paraben	Preservative	0.1ml
Lavender oil	Fragrance	q. s
Distilled water	Vehicle	q. s

**Extract: -**



**Fig no.6: Cucumber Extract**



**Fig no.7: Tulsi Extract**



**Fig no.8: Turmeric Extract**

**Procedure: -**

In a borosilicate glass beaker, heat liquid paraffin and beeswax to 75 °C and maintain the temperature (Phase of oil).

Borax and methylparaben should be dissolved in distilled water in a different beaker, and the mixture should be heated to 75 °C to produce a clear solution. (Phase of liquid).

Add this aqueous phase to the heated oily phase slowly .

Then add the following extract

Aloe vera gel

Cucumber extract

Turmeric extract

Tulsi extract



**Fig no. 9: Preparation of base**

Stir the formulation vigorously until it forms a smooth cream

Add few drops of lavender oil as a fragrance

❖ **Evaluation Of Cream: -**

**Physical Evaluation: -**

Formulated herbal cream was evaluated by using following physical parameters

**1.Colour: -**

The color of cream was observed by visual examination i. e creamy

**2. Odour: -**

The Odour of cream was found to be characteristics

**3.State: -**

The cream was examined visually. The cream was semi solid in state result is shows in table

**4.Consistency:**

The formulation was examined by rubbing cream on hand manually. The cream has a smooth consistency.

**5 Washability:**

The formulation was applied on the skin and then ease extends of washing with water was checked

**6.Non irritancy test: -**

Herbal cream formulation was evaluated for the non-irritancy test. Preparation showed no redness and irritancy. Observation of the state was done for 24 hrs

**7.ph: -**

The PH of formulation was found to be nearer to skin PH so it can be safely used on the skin.

### 8. Phase separation: -

The prepared cream was transferred in a suitable wide mouth container. Set aside for storage the oil phase and aqueous phase separation were visualized after 24h.

### 9. After feel

Emollience slipperiness and amount of residue left after the application of the fixed amount of cream was found to be good.

### ❖ Result: -

In this test the cream was observed for

Parameters	Effect
Color	Creamy
Odour	Pleasant
Texture	Smooth
State	Semisolid
Irritancy	No irritancy
Washability	Easily washable
Ph	6.8
Phase separation	No phase separation

The present research was the formulation and evaluation of polyherbal cream

The evaluation parameters, which included the polyherbal cream's physical evaluation, PH, spreadability, washability, non-irritancy test, viscosity, and phase separation, were displayed in the table under the results.



Fig No. 10: Multi-Purpose Herbal Cream

## CONCLUSION

By using Aloe Vera gel, Cucumber extract, Turmeric extract and Tulsi extract the cream showed a multipurpose effect and all these herbal ingredients showed significantly different activities. Based on results and discussion, the formulation was stable at room temperature and can be safely used on the skin.

## REFERENCE

1. Patel RP, KamaniR, "Formulation Optimization and Evaluation of Mometasone Furoate Cream" *Journal of Pharmacy Research*, 2009; 10:1565-1569.
2. Aswal A, Kalra M, Rout A, "Preparation and evaluation of polyherbal cosmetic cream" *Der Pharmacia Lettre*, 2013; 5(1):838
3. Sherrow V, "For Appearance' Sake: The Historical Encyclopedia of Good Looks" *Beauty, and Grooming*, 1995; 4:238-39.
4. Jamshiya S, "Formulation and Evaluation of Herbal Skin Cream for Wound Healing" (Doctoral dissertation, RVS College of Pharmaceutical Sciences, Coimbatore).
5. Avinash G, Priyanka B, "Wound healing potential of Indian medicinal plants" *International Journal of Pharmacy Review & Res*, 2013;2:75-87.
6. Mittal A, Sardana S, "Herbal boon for wounds" *International Journal of Pharmacy and Pharmaceutical Sciences*, 2013; 5:1-12
7. Tiwari VK, "Burn wound: How it differs from other wounds?" *Indian journal of plastic surgery: official publication of the Association of Plastic Surgeons of India*. 2012 May; 45(2):364.
8. Sarabhai S, Tiwari VK, "Principles and practice of wound care" *JP Medical Ltd*; 2012 May 15.
9. Kiran K, Asad M, "Wound healing activity of *Sesamum indicum* L seed and oil in rats"

10. James OM, Victoria IA, "Excision and incision wound healing potential of Saba florida (Benth) leaf extract in *Rattus Norvegicus*" *Inter J Pharm Biomed Res*, 2010; 1(4):101-7
11. Saini S, Dhiman A, Nanda S, "Traditional Indian medicinal plants with potential wound healing activity: a review" *International Journal of Pharmaceutical Sciences and Research*, 2016; 7(5):1809
12. DiPietro LA, Burns AL, editors. *Wound healing: methods and protocols*. Springer Science & Business Media; 2003
13. Builders PF, Kabele-Toge B, Builders M, Chindo BA, Agwunobi PA, Isimi YC, "Wound healing potential of formulated extract from hibiscus sabdariffa calyx" *Indian journal of pharmaceutical sciences*, 2013; 75(1):45.
14. Biswas TK, Mukherjee B, "Plant medicines of Indian origin for wound healing activity: a review" *The international journal of lower extremity wounds*, 2003; 2(1):25-39.
31. Prasad V, Dorle AK, "Evaluation of ghee based formulation for wound healing activity" *Journal of ethnopharmacology*, 2006;
15. Manisha Yogesh Sonalkar, Sachin Annasaheb Nitave. *Formulation and evaluation of polyherbal cosmetic cream*. *World J Pharm Pharm Sci* 2016;5:772-9.
16. T Reynolds, AC Dweck. *Aloe vera leaf gel: a review update*. *J Ethno Pharmacol* 1999;68:3-37.
17. Priyanka Sharma, Amit C Kharkwal, Harsha Kharkwal, MZ Abdin, Ajit Varma. *A review on the pharmacological properties of Aloe Vera*. *Int J Pharm Sci Rev Res* 2014;29:31-7.
18. Sharma Pankaj, Tomar Lokeshwar, Bachwani Mukesh, Bansal Vishnu. *Review on neem (Azadirachta indica): thousand problems, one solution*. *Int Res J Pharm* 2011;2:97-102.
19. KP Sampath Kumar, Debjit Bhowmik, Biswajit, Chiranjib, Pankaj, KK Tripathi Margret Chandira. *Traditional Indian herbal plants Tulsi and its medical importance: a review*. *Res Rev: J Pharmacogn Phytochem* 2010;2:103-8.
20. Renisheya Joy Jeba Malar T, Johnson M, Nancy Beaulah S, Laju RS, Anupriya G, Renola Joy Jeba Ethel T. *Antibacterial and antifungal activity of aloe Vera gel extract*. *Int J Biomed Adv Res* 2012;3:184-7.
21. Kalpesh Chhotalal Ashara. *Importance of trituration technique on preparation and evaluation of cold cream*. *Inventi Rapid Pharm Tech* 2013;1-2:2012.
22. Sk Uddandu Saheb, Aduri Prakash Reddy, K Rajitha, B Sravani, B Vanitha. *Formulation and evaluation of cream from naturally containing plant extracts*. *World J Pharm Pharm Sci* 2018;7:851-62.
23. Bhakti Mali, Sumedh N Moharil, Vaibhav Mhasal, Mahesh B Narkhede. *Drug-excipient interaction study of Tramadol HCL with polymers*. *World J Pharm Res* 2017;6:848-61.
24. Shah RN, Methal BM, *A Handbook of Cosmetics* Page No.1
25. Myers D, *Surfactant Science and Technology*, VCH Publishers: 1992, Pp. 209-247
26. Sahu T, Patel T, Sahu S, Gidwani B, "Skin Cream as Topical Drug Delivery System: A Review" *Journal of Pharmaceutical and Biological Sciences*, Published by Atom and Cell Publishers, ISSN: 2320-1924
27. James WD, Berger TG, and Elston DM, *Andrews' Diseases of the Skin: Clinical Dermatology*. (10th ed.) 2006, Philadelphia; Elsevier Saunders: 2006, p. 1.
28. Ross and Wilson. *Anatomy and Physiology in Health and Illness*, 11e
29. Ansel HC, Popovich NG, Allen LV. *Pharmaceutical dosage forms and drug*

- delivery systems. Lippincott Williams & Wilkins; 1995.
30. Rai R, Poudyal AP, Das S, Pharmaceutical Creams and their use in wound healing: A Review, *Journal of Drug Delivery and Therapeutics*, 2019; 9(3-s): 907-912 <http://dx.doi.org/10.22270/jddt.v9i3-s.3042>
31. Sahu T, Patel T, Sahu S, Gidwani B, “Skin cream as Topical Drug Delivery System: A Review” *Journal of Pharmaceutical and Biological Sciences*, 2016; 4(5):149-154
32. Mohiuddin AK, “Skin Care Creams: Formulation and Use” *American Journal of Dermatological Research and Reviews*, 2019, 2:8
33. Chapter 11. Semi-solid dosage forms. In: Alekha Dash, Somnath Singh, Justin Tolman. *Pharmaceutics: Basic Principles and Application to Pharmacy Practice*, published by Academic Press, 2013 ISBN 0123868912, 9780123868916
34. Swarbrick J, Rubino JT, Rubino OP. Chapter 22. Coarse Dispersions. In: *Remington: The Science and Practice of Pharmacy Volume 1*, edited by David B. Troy, Paul Beringer, published by Lippincott Williams & Wilkins, 2006 ISBN 0781746736, 9780781746731

**HOW TO CITE:** Aman Shaikh, Tejashree kedar, Abubakar Shaikh, Sohel Shaikh, Naziya pathan, Formulation And Evaluation Of Multipurpose Herbal Cream, *Int. J. of Pharm. Sci.*, 2024, Vol 2, Issue 6, 1327-1334. <https://doi.org/10.5281/zenodo.12583271>

