INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: https://www.ijpsjournal.com

OPEN ACCESS

Review Paper

A Review on Polyherbal Cosmetic Cream

Suresh Ray* Ajay Kumar, Dr. Shivanand Patil

Shree dev bhoomi institute of education science and technology, dehradun.

ARTICLE INFO

Published: 07 Apr 2026
Keywords:
Moisturing and skin nourishment anti-inflammatory, anti-aging, anti-fungal, anti- acne, anti-oxidant, skin irritation
DOI:
10.5281/zenodo.19451185

ABSTRACT

The development of safe and effective cosmetic formulations using natural ingredients has gained significant attention in modern cosmetology. In this study, a polyherbal cosmetic cream was formulated using selected medicinal plant extracts known for their dermatological benefits, including antioxidant, anti-inflammatory, moisturizing, and skin-protective properties. The extracts were then concentrated to dryness and stored for further use. The pH of the cream was 6.8, it was easily spreadable, washable, no gritty particles were found and the dye test confirmed that it was o/w type of cream, The formulation showed good spreadable, no phase separation & good consistency.The formulation F5 and F6 shows no redness, oedema, inflammation and irritation during irritancy studies. Polyherbal formulations are those that contain two or more herbs. The present study aims at formulation of polyherbal cosmetic cream for the use of moisturising, nourishing and cure of numerous skin disorders

INTRODUCTION

The largest organ of the body is skin and it forms an ultimate shielding barricade against environmental stress enhancers such as transmittable pathogens, ultra-violet radiations, dust and chemical agents which causes ageing and other infections. The condition of general inner health and aging can be judged by skin.[1] A natural skin cosmetic should moisturize, hydrate and nourish the skin.[2] Cream is defined as semisolid emulsions which are oil in-water (o/w) or water-in-oil (w/o) type and these semisolid emulsions are intended for external application. Two phases of cream i.e. oil in-water and water-in-oil. [3]

It has important role in whitening of skin. [4] Excessive exposure to UV radiations causes Erythema, oedema, suntan, hyperplasia, early aging, [5] and skin cancer and is also responsible for generation of free radicals. [6,7] Further research into these phytochemicals has shown potential for treating various diseases, including hepatoprotective, antiviral, antifungal, antipyretic, antihistaminic, antimalarial, antibacterial, anti-inflammatory, and antioxidant activities [8].

***Corresponding Author:** Suresh Ray
Address: *Shree dev bhoomi institute of education science and technology , dehradun.*
Email ✉: suresh9807871908@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.

These creams are evaluated for various parameters including physical characteristics, antimicrobial activity, and skin compatibility. [9,10] They contain natural antioxidants like vitamin C. Many other benefits can be seen with the use of herbal products such as; they are suitable for all skin types, more affordable than synthetic ones and wide selection to choose.[11]

Classification of cosmetic:

Skin	Powder, Lip balm, cream, lotion, sunscreen
Hair	Shampoo, hair oil, hair tonic,
Mouth	Dentifrices
Eye	Eye shadow, eye liner
Lip	Lipstick
Nail	Nail lacquer

Advantages:

- When applied to the skin, it is non-annoying and less oily than ointment.
- Effectively washable with water. Simple to remove.
- Easy to spread over the surface of the skin (i.e., easy to apply).

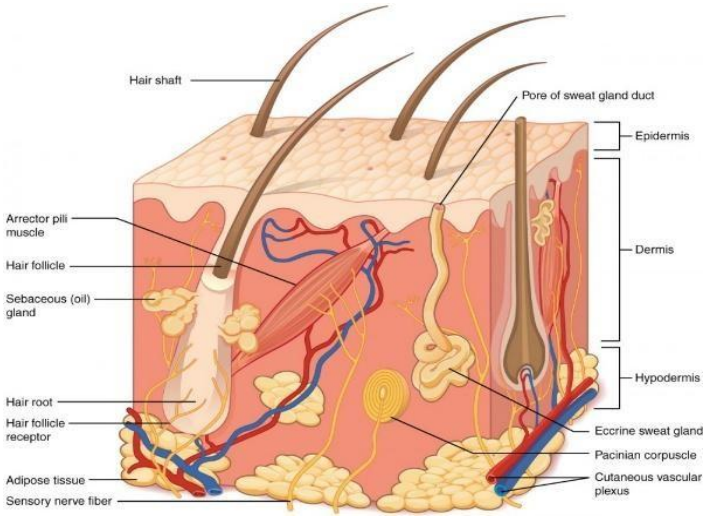
Compared to several other pharmaceutical semi-solid dosage forms, they provide a longer period of action at the location of usage. [12,13]

Disadvantages:

- Stability cannot be compared to an ointment.
- They are less hydrophobic than other semi-solid formulations, hence the risk of contamination is greater than with other formulations.

Anatomy and physiology of skin:

Human skin comprises of three distinct but mutually dependent tissues: The stratified, vascular, cellular called as “epidermis” Underlying dermis of connective tissues, Hypodermis.



Epidermis:

The multilayered epidermis varies in thickness, depending on cell size and number of cell layers of epidermis, ranging from 0.8 mm on palms and soles down to 0.06 mm on the eyelids. It contains 10 to 25 layers of dead, keratinized cells called corneocytes. The architecture of horny layer may be modelled as a wall-like structure. In this model,

the keratinized cells function as protein "bricks" embedded in lipid "mortar.

Dermis:

Dermis is 3 to 5 mm thick layer and is composed of a matrix of connective tissue, which contains blood vessels, lymph vessels and nerves. Capillaries reach to within 0.2 mm of skin surface and provide sink conditions for most molecules penetrating the skin barrier.

Hypodermis:

The hypodermis or subcutaneous fat tissue supports the dermis and epidermis. It serves as a fat storage area. This layer helps to regulate temperature, provides nutritional support and mechanically protection. [14]

Polyherbal cream:

The topical products that can be applied to the skin are called creams. "Viscous liquid or semi-solid emulsions of either the oil-in-water or water-in-oil type" are what are referred to as "creams." dosage forms whose viscosity ranges between water and oil. [15,16] The idea is that different herbs contribute different beneficial properties (moisturizing, anti-inflammatory, antimicrobial, wound healing, soothing, etc.), and together they form a "synergistic" natural formulation.

Tulsi:-

Synonyms: Holy basil, Tulasi
Biological source: It is obtained from fresh and dried leaves of Ocimum species like Ocimum sanctum L. and Ocimum basilicum L.
Family: Lamiaceae
Phytoconstituents: Its contain volatile oils (eugenol 70-80%, beta caryophyllene, linalool, methy eugenol), phenolic compounds (rosmarinic acid, ursolic acid, oleanolic acid, caffeic acid), flavonoids, terpenoids, glycosides, alkaloids.

Medicinal use
1. Tulsi helps to cure fever.
2. It helps to cure skin problems like blackheads, premature aging, acne, etc.
3. Tulsi used to treat heart disease.
4. It prevents blackheads.
5. It prevents skin from acne.

Fig: Tulsi

Aloe Vera

Synonyms: Ghritkumari, Musabbar
Biological source: It is obtained from Dried juice of leaves of Aloe species. Aloe barbadensis (Curacao aloe) Aloe ferox (Cape aloe) Aloe perryl (Socotrine aloe) Aloe spicata (Cape aloe)
Family: Asphodelaceae
Phytoconstituents: Aloe vera contains amino acids like leucine, isoleucine, saponin glycosides provide cleansing action, vitamins A, C, E, B, B12, and folic acid.

Medicinal uses
1. Used as anti-microbial.
2. Use to cure skin injuries.
3. Use as an anti-inflammatory.
4. Helps to soothe and sunburn.
5. Helps to moisturize the skin

Fig: Aloe vera

Turmeric

Synonyms: Curcuma, Curcuma aromatic, Curcumine

Biological source: Turmeric is obtained from a rhizomatous of Curcuma longa

Family: Zingiberaceae

Phytoconstituents: Its contains volatile oils (turmerone 50-60%), curcuminoids (curcumin 2-5%, demethoxycurcumin, 5methoxycurcumin), flavonoids (quercetin), phenolic compounds (ferulic acid, cinnamic acid, vanillic acid), terpenoids, glycosides.

Medicinal use

1. Use to treat disorders of the skin.
2. Use to treat respiratory tract infection.
3. Use treat problems in the digestive system.
4. Use as an antiseptic.
5. It helps to heal acne.

Fig: Turmeric

Neem:

Synonym : Margosa , Indian Lilac

Biological Source: Neem consists of fresh and dried leaves, bark, seeds, and oil obtained from Azadirachta indica

Family: Meliaceae

Phytoconstituents

Neem contains several important bioactive compounds:

Limonoids

Azadirachtin (major active constituent)

Nimbin

Nimbidin

Flavonoids

Quercetin

Medicinal Use:-

It is used as an anti microbial

Used as in antiseptic

Used as an anti diabetic

Used as an anti helmentic

Used as an anti malaria

Fig: Neem

Ideal properties:

Stability: The cream should be chemically and physically stable.

Texture: The cream should be smooth and free from grittiness.

Melting point: The cream should melt or soften at body temperature and be easy to apply.

Base: The base should be non-irritant and should have no therapeutic action.

Medicament: The medicament should be finely divided and uniformly distributed throughout the base.

Container: The container should protect the cream from external factors like heat.

Washability: The cream should be easily washable with water.

Spreadability: Creams spread evenly over the skin, offering good coverage.

Absorption: Easily absorbed into the skin, especially O/W emulsions. [17,18]

MATERIALS AND METHODS

Chemicals: Stearic acid, acetyl alcohol, glycerine, parabens, water.

Collection of plant material:

Aloe vera, leaves were collected from the garden of and the dried rhizomes of turmeric were collected from the local market.

Aloe vera	Skin soothing, moisturising, anti inflammatory
Neem extract	Anti-bacterial, anti-acne, anti-fungal
turmeric	Anti-inflammatory, anti-oxidants
liquorice	Skin brightening, anti-pigmentation
Tulsi	Anti-microbial, anti-oxidants

EXTRACTION PROCESS:

Method of extraction of Aloe vera:

Fresh extract is acquired and kept in storage [19].

Method for extraction of Turmeric rhizomes:

Turmeric rhizomes that had been dried and ground into powder were gathered from the market. Five grams of the aforementioned powder were taken, and it was cooked for 5 to 10 minutes in 50ml of ethanol. To get rid of the contaminants, filter paper was used to filter the resulting extract [20], mature leaves were removed from the plant and cleaned with distilled water.A sterilized knife is used to cut the leaf longitudinally. Next, semi-solid aloe vera is gathered. To get a uniform extract, the semi-solid mass was constantly crushed in a mortar and pestle.

Extraction of Tulsi leaves:

The fresh leaves of Tulsi were collected and washed and taken in a mortar and pestle and are grinded well with required amount of water in order to get juice. Then the juice is filtered to remove any particles present.

Extraction of Neem leaves:

Maceration extraction: The neem leaves were shade for one week and powered (60 mesh) .5g of dried leaves was blended with 50ml of different solvents (95% ethanol, hydrous ethanol, acetone water, method ,80%) respectively for 24 hours at temperature room. After 24 hours obtained extracts was filtered by using normal filter paper. The obtained extracts of a sample heated by using water bath for 45 minutes. The obtained concentration extracts ready for the use of herbal cream formulation.

(iv) Extraction of papaya:

Maceration extraction: The papaya fruits were shade for one week and powered (60 mesh) .5g of dried leaves was blended with 50ml of different solvents (95% ethanol, hydrous ethanol, acetone water, method ,80%) respectively for 24 hours at temperature room. After 24 hours obtained extracts was filtered by using normal filter paper.

The obtained extracts of a sample heated by using water bath for 45 minutes. The obtained concentration extracts ready for the use of herbal cream formulation.

Preparation of cream:

In a borosilicate glass beaker, heat liquid paraffin and beeswax to 75 °C and keep it there throughout the heating process. (Phase oil) Borax and methylparaben should be dissolved in distilled water and heated in a separate beaker to 75 °C to produce a clear solution. (Phase of water) The heated oily phase will then gradually receive this watery phase [24,25]. Then, after measuring out the appropriate amounts, add the aloe Vera gel, neem extract, Tulsi extract, and papaya extract. Stir well until a smooth cream forms. Then, as a scent, add a few drops of rose oil. Add a few drops of distilled water, if necessary, after placing this cream on the slab. Then, mix the cream geometry recall on the slab to give it a smooth texture and ensure that all the elements are thoroughly combined. Slab technique or extemporaneous cream preparation is the name of this technique.

Evaluation of Cream

Physical properties: The cream was observed for the colour, Odor and appearance. [21,22] **Washability:** The cream was applied on the hand and observed under the running.

pH: The pH meter was calibrated with the help of standard buffer solution. Weigh 0.5 gm of cream dissolved it in 50.0ml of distilled water and its p H was measured with the help of digital pH meter.[22,23]

Viscosity: Viscosity of the cream was determined with the help of Brookfield viscometer at 100 rpm with the spindle no.7

Spread ability test: The cream sample was applied between the two glass slides and was compressed between the two-glass slide to uniform thickness by placing 100 gm of weight for 5 minutes then weight was added to the weighing pan. The time in which the upper glass slide moved over the lower slide was taken as a measure of spread ability.

CONCLUSION

Herbal cosmetics are thus the most essential part of contemporary living because they are mostly employed for aesthetic objectives. Many herbal substances have capabilities that benefit the skin, including antioxidant, anti-inflammatory, antiseptic, dryness, dark circles, exfoliating dead skin, radiant skin, opening clogged pores, antibacterial, rashes, and blemishes properties. Natural beauty care products are created by combining one or more natural substances with acceptable beauty additives to form the base. The current experimental work shown that polyherbal cream with herbal extract can be developed and tested for anti-microbial effective.

REFERENCES

1. Tzellos TG, Klagas I, Vahtsevanos K, Triaridis S, Printza A, Kyrgidis A, et al. Extrinsic ageing in the human skin is associated with alterations in the expression of hyaluronic acid and its metabolizing enzymes. Ex - Dermatol. 2009; 18: 1028–35.
2. Kapoor V.P, Journal of Research in Pharmaceutical Sciences. Natural product radiance, 2005. 4(4): 306-314.
3. Trailokya Das, Jiban Debnath, Bipulnath, Suvakanta Dash: Formulation and evaluation of an herbal cream for wound healing activity, International Journal of Pharmacy And Pharmaceutical Sciences, 2014; 6(suppl 2): 693-697.

4. Sujith S Nair*, Molly Mathew and Sreena K, Vinayaka Missions University, Salem, Tamil Nadu, India, Formulation and Evaluation of Herbal Cream containing Curcuma longa., international journal of pharmaceutical and chemical sciences issn: 2277-5005.
5. Afaq, F., and Mukhtar, H. (2001). Effects of solar radiation on cutaneous detoxification pathways. J. photochem. Photobiol. 63, 61–69.doi: 10.1016/S1011-1344(01)00217-2.
6. Baier, J., Maisch, T., Maier, M., Landthaler, M., and Bäumler, W. (2007). Direct detection of singlet oxygen generated by UVA irradiation in human cells and skin. J. I n v e st. De rma t o l. 1 2 7 , 1 4 9 8 – 1 5 0 6 . d o i: 10.1038/sj.jid.5700741.
7. Masaki, H. (2010). Role of antioxidants in the skin: antiaging effects. J. Dermatol. Sci. 58, 85–90. doi: 10.1016/j.jdermsci.2010.03.003.
8. Chakraborty R, De SD. A Brief Overview on the Health Benefits of Nyctanthes arbor-tristis Linn.- A Wonder of Mother Nature. Indo Global Journal of Pharmaceutical Sciences. 2022 Jun 30;12:197- 204.
9. Kiran Yadav, Shashikant Maury, Piyush Yadav. A Review Article on Formulation and Evaluation of Herbal Cold Cream using Curcuma longa. International Journal of Pharmaceutical Research and Applications. 2023; 8(3):727-731.
10. Cui H, Quan P, Zhou Z, Fang L. Development of a drug-in-adhesive patch combining ion pair and chemical enhancer strategy for topical delivery of zaltoprofen: pharmacokinetic,pharmacodynamic and in vitro/in vivo correlation evaluation. Drug Deliv. 2016 23(9):3461-3470.
11. Maithili agarwal, anuradha singh, nupur mathur, sakshi sharma comparative study of synthetic and herbal cosmetic products for their toxicity assessment by microbial bioassays international journal of scientific & technology research, August 2019; 8(8).
12. https://www.slideshare.net/rahimbrave/herbal-cosmetics-6981171 http://www.medplants.net/herbs-used-in-cosmetics.
13. Mortensen, A.; Skibsted, L.H. Relative stability of carotenoid radical cations and homologue tocopheroxyl radicals: A real time kinetic study of antioxidant hierarchy, 1997; 417(2): 261–266.
14. Wiechers J. Use of Chemical Penetration Enhancers in Transdermal Drug DeliveryPossibilities and Difficulties. Acta Pharm. 1992: 4: 123.
15. Saudagar R.B. and Sisodiya M.H. Review on Herbal Cosmetics. World Journal of Pharmaceutical Research, 2018; 7, 7: 573-591.
16. Ansel HC, Popovich NG, Allen LV. Pharmaceutical dosage forms and drug delivery systems. Lippincott Williams & Wilkins;1995.
17. Ansel HC, Popovich NG, Allen LV. Pharmaceutical dosage forms and drug delivery systems. Lippincott Williams & Wilkins, 1995.
18. Rai R, Poudyl 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.
19. Sang-Tae Kim, Peter Pressman, Roger Clemens, Allison Moore. Ryan Hamilton, A. Wallace Hayes, The absence of genotoxicity of Aloe vera beverages: A review of the literature, Food and Chemical Toxicology, Volume 174, 2023, 113628, ISSN 0278-6915, [8]
20. Zielińska, Aleksandra et al. Properties, Extraction Methods, and Delivery Systems for Curcumin as a Natural Source of Beneficial

Health Effects." Medicina (Kaunas, Lithuania) vol. 56,7 336. 3 Jul. 2020.

21. Panda, H. (2000). Herbal Cosmetics Hand Book. National Institute of Industrial Re. Mali, A. S., Karekar, P., & Yadav,A. V. (2015). Formulation and evaluation of multipurpose herbal cream. International Journal of Science and Research, International Journal of Science and Research, 4(11), 1495-1498.
22. Prasanna A. Datar. (2013) Formulation and evaluation of polyherbal gel prepare using Carbopol 934 for treating skin disease in comparison with ointment using emulsifying ointment, Research and Reviews: Journal of Pharmaceutics and Nanotechnology, 1(1): 20-21.
23. Mukherjee, P. K. (2002). Quality control of herbal drugs: an approach to evaluation of botanicals. Business Horizons.
24. Saudagar R.B. and Sisodiya M.H. Review on Herbal Cosmetics. World Journal of Pharmaceutical Research, 2018; 7, 7: 573-591.
25. Ansel HC, Popovich NG, Allen LV. Pharmaceutical dosage forms and drug delivery systems.
    Lippincott Williams & Wilkins;1995.

HOW TO CITE: Suresh Ray Ajay Kumar, Dr. Shivanand Patil, A Review on Polyherbal Cosmetic Cream, Int. J. of Pharm. Sci., 2026, Vol 4, Issue 4, 1045-1052 https://doi.org/10.5281/zenodo.19451185