



IJPPR

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals

ISSN 2349-7203



Human Journals

Research Article

November 2023 Vol.:28, Issue:4

© All rights are reserved by Blessy Jacob et al.

Preparation and Evaluation of Herbal Moisturizing Cream

 <p>IJPPR INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH An official Publication of Human Journals</p>		 <p>ISSN 2349-7203 HUMAN</p>
<p>Blessy Jacob *1, Dona Mohammed ², Likitha B.N.², Vineeth Chandy ³</p>		
<p>¹ Associate Professor, T. John College of Pharmacy, Bengaluru, Karnataka, 560083 India</p>		
<p>² Student, T. John College of Pharmacy, Bengaluru, Karnataka, 560083 India</p>		
<p>³ Principal, T. John College of Pharmacy, Bengaluru, Karnataka, 560083 India</p>		
Submitted:	22 October 2023	
Accepted:	27 October 2023	
Published:	30 November 2023	



HUMAN JOURNALS

ijppr.humanjournals.com

Keywords: Herbal, moisturizing, extract, formulated

ABSTRACT

In the modern world, using cosmetics has become so essential that it is difficult to resist doing so. The surge in social events and get-togethers has caused their demand to expand dramatically. Many emerging nations have seen consistent growth in the cosmetics business over the last few years. A significant number of synthetic chemicals found in personal care products have been linked to harmful health effects, including cancer, in consumers. There may be neurotoxins in some of the substances, which are reproductive toxins that have been shown to have an impact on brain development and reproduction. The application of herbal cosmetics has emerged as a suitable remedy for this contemporary issue. The term "herbal cosmetics" usually refers to natural cosmetics that are free of side effects by using herbs in the raw or extracted form. They give the body nutrition and other beneficial minerals in addition to having no negative effects. Herbal moisturizers are an example of herbal cosmetic. These are semi-solid preparations that are used to combat wrinkles and lower the likelihood of skin issues. They are employed to improve and beautify how people seem. The aim of the research was to formulate and evaluate the herbal moisturizing cream. The herbs used in the preparation are: cucumber extract and dried beetroot powder. The formulated moisturizing cream was evaluated for irritancy, washability, pH, viscosity, phase separation, and spreadability. The results show satisfactory results throughout the research.

INTRODUCTION:

The word "cosmetic" comes from the Greek verb "kosmesticos," which means "to adorn." Since then, every substance utilized for aesthetic enhancement or promotion has been referred to be cosmetic. The term "cosmetics" has its origins in Ancient Rome. The phrase "cosmetics" originated from the fact that they were usually made by female slaves called "cosmetic." One uses cosmetics to improve their appearance.¹The use of makeup dates back many millennia. The Egyptians are the first people who are known to have employed makeup to improve their appearance. Back then, makeup consisted of simply eye coloring or body paint.²Among the advantages of moisturizing cream are:

- Moisturizing cream is the water in oil emulsion, suitable for winter season.
- Moisturizing cream gives the prolonged contact time in the site of application as compared to the other semisolid dosage forms or formulation.
- They give elegance to skin and it is not that much greasy.
- Due to the oil phase, it gives emollience to skin.³
- The function of the moisturizing cream is to restore moisture to dry skin.
- It allows to eliminate the waste materials from the pores and also cools the body.
- It is easy to wash away with water.
- They are non-irritating when applied on the skin.
- The water phase gives extra conservation to the skin.
- It gets liquefied at body temperature.
- It penetrates the epidermis of the skin via the natural pores.⁴⁻⁵



Cucumber: *Cucumis sativus* is a plant that is widely grown throughout the world. Cucumber is mainly consumed as raw fruit in various parts of the world. The cucumber plant has various medicinal values which are described in Ayurveda.⁶ In Ayurveda it is said to be used for burning sensation, swollen eyes, anuria, dermatitis, burns, skin whitening, emollient, and also as moisturizer. Mainly flavonoids, glycosides and tannins are responsible for various activities in plants.⁷ *Cucumis* is a genus of twining, tendril-bearing plant belonging to the family Cucurbitaceae. *Cucumis sativus* (*C. sativus*) commonly called as “Cucumber” is believed to be originated in Asia and it exist as wild cucumbers in India and closely related species found in eastern Himalayan. The cucumber is an annual monoecious herb with trailing or climbing, 4-5 angled stems up to 5m long, sparsely branching with simple tendrils up to 30cm long.⁸ The plant is covered with scabridulous hairs and root system is extensive and superficial. Leaves are alternate, simple and borne on petiole 5-20cm long. Lamina is triangular-ovate in outline, 7-20cm × 7-15 cm, plamately 3-7 lobed, deeply cordate at base, acte on the apex, toothed, hispidulous or scabridulous on both surfaces. Flowers are unisexual, regular, pentamerous, sepals narrowly triangular, 0.5-1cm long, corolla widely campanulate, lobes up to 2cm long, yellow. Staminate flowers occur in 3-7 flowered fascicles with pedicel 0.5-2cm long. Pistillate flowers are solitary, with pedicel short and thick up to 0.5cm long, lengthening in fruit up to 5cm, ovary inferior, ellipsoid, muricate, 2-5cm long, prickly hairy or warthy, stigma 3-lobed. The fruit is roughly cylindrical, elongated with tapered ends, and may be as large as 60cm long and 10cm in diameter. Fruit encloses seeds and it develops from flowers.⁹⁻¹²

Botanical Classification

Kingdom: Plantae

Division: Mangoliophyta

Class: Mangoliopsida

Order: Cucurbitales

Family: Cucurbitaceae

Genus: *Cucumis*

Species: *C. sativus*

Other Names

English: Cucumber

Chinese: Huang Gua

Hindi: Kheera

Marathi: Tavsini

Malayalam: Vellari

Sanskrit: Sakusa



Beetroot: *Beta vulgaris* (beet) is a species of flowering plant in the subfamily Betoideae of the family Amaranthaceae. *Beta vulgaris* is a herbaceous biennial or, rarely, perennial plant up to 120 cm (rarely 200 cm) in height; cultivated forms are mostly biennial.¹³⁻¹⁵ The roots of cultivated forms are dark red, white, or yellow and moderately to strongly swollen and fleshy (subsp. *vulgaris*); they are brown, fibrous, sometimes swollen, and woody in the wild subspecies. The stems grow erect or, in the wild forms, often procumbent; they are simple or branched in the upper part and their surface is ribbed and striate. The basal leaves have a long petiole (which may be thickened and red, white, or yellow in some cultivars). The simple leaf blade is oblanceolate to heart-shaped, dark green to dark red, slightly fleshy, usually with a prominent midrib, with an entire or undulate margin, 5–20 cm

long on wild plants (often much larger in cultivated plants). The upper leaves are smaller, their blades are rhombic to narrowly lanceolate.¹⁶⁻²⁶

METHOD

Preparation of Moisturizing Cream: ²⁷

Formulation was prepared by adding two different phases which are as follows.

Phase 1: Melt the solid ingredients with the help of heat.

Phase 2: Dissolve the borax in water with the help of heat. While still hot add phase 1 into the phase 2 gradually with constant stirring to the wax and oil mixture. Continue this process for 5 minutes, stir all the time then remove from the heat and stir until it gets moisturizing. As compared to other creams this cream may be made heavier by adding more wax.

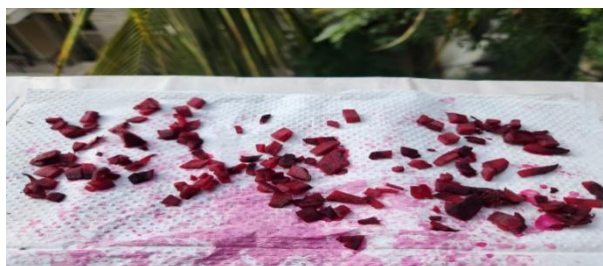


Table no.1: Formulation table for herbal moisturizing cream

S. no	Ingredients	Quantity taken	Role
1	beeswax	1.5g	Base
2	Cocoa butter	8g	Base
3	Borax	0.5g	Emulsifying agent
4	Distilled water	10 ml	vehicle
5	Rose water	0.5 ml	fragrance
6	Methyl paraben	0.18g	preservative
7	Propyl paraben	0.02g	preservative
8	Cucumber extract	10 ml	Moisturizing ingredient
9	Beetroot powder	0.2g	Antioxidant

EVALUATION OF CREAM:



1) Physical properties:

The cream was observed for its colour, odour and appearance.

2) Washability



The cream was applied on the hand and observed under the running water.

3) pH:



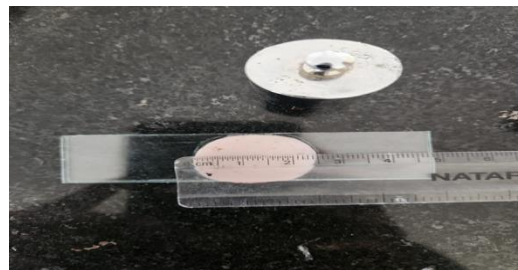
The pH meter was calibrated with the help of a standard buffer solution. Weigh 0.5 gm of cream and dissolved it in 50.0ml of distilled water and its p H was measured with the help of a digital pH meter.

4) Viscosity:



The viscosity of the cream was determined with the help of a Brookfield viscometer at 100 rpm with the spindle no.

5) Spreadability 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.

s=weight tight to upper slide

l=length moved on the glass slide

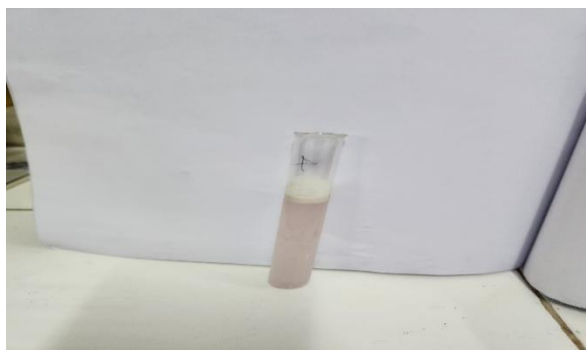
t=time take

6) Irritancy test:

Mark an area (1sq.cm) on the left-hand dorsal surface. The cream was applied to the specified area and time was noted. Irritancy, erythema, and edema, were checked if any for regular intervals up to 24 hrs. and reported.

7) Dilution test:

The cream was tested for being w/o type of emulsion by adding a small amount to water taken in a test tube and then allowed to stand for some time.



8) Homogeneity

Homogeneity was tested via the visual appearance and test.

RESULT AND DISCUSSION

The prepared formulation was light pink in colour. It has the fragrance of rose extract and has smooth texture. The physical properties of formulated cream were judged by color, odour and texture. In wash ability, the cream applied on skin was easily removed by washing with tap water. The herbal formulation shoed pH nearer to skin required i.e. pH 7.1. The viscosity of

formulated cream was determined by brook field viscometer at 100 rpm using spindle no. SC4-21. The viscosity of cream was 3100cp. The spreadability test showed that the formulated cream has good spreadable properties. The formulated cream shows no redness, oedema, irritation and inflammation during studies. The formulated cream is safe to use. In dilution test, the cream was found to be w/o type of emulsion. And the homogeneity of the formulated cream was judged by the visual appearance and touch. The appearance and touch of the cream was good.

CONCLUSION

Thus, from the results, of the study cucumber extract was explored for its moisturization properties on the skin. It can be concluded cucumber extract increases skin hydration and can be effectively used as a moisturizing agent in formulated creams.

REFERENCES

1. E.D. De Melo, A.H. Mounteer, H.D. Lucas SouzaLeão, R.C.Barros Bahia and I.M. Ferreira Campos, "Toxicity identification evaluation of cosmetics industry wastewater," *Journal of Hazardous Materials*, vol. 244–245 pp.329-334, 2013.
2. D. Basketter and L. Lea, "Dermal Toxicology of Cosmetics and Body-Care Products," *General, applied and systems toxicology*. 2011. Available from: <https://doi.org/10.1002/9780470744307.gat143>
3. S. Zulaikha, S.N. Syed Ismail and S.M. Praveena, "Hazardous Ingredients in Cosmetics and Personal Care Products and Health Concern: A Review," *Public Health Research*, vol. 5, no. 1, pp. 7-15, 2015.
4. H. Zeliger, "Toxic consequences beyond the impact of one-component product and environmental exposures," *Human toxicology of chemical mixtures*, 1st ed. William Andrew.
5. Norwich, NY, USA, Inc. 2008.
6. L. Jarup, "Hazards of heavy metal contamination," *Br Med Bull*, vol. 68, no. 1, pp. 167- 182, 2003.
7. Saraf, S., & Kaur, C. D. (2010). Phytoconstituents as photo protective novel cosmetic formulations. *Pharmacognosy reviews*, 4(7), 1.
8. Sanmathi. B.S., Kalpesh K. Mehta, Anshu Gupta (2016). *Dispensing Pharmacy A Practical Manual* (p.p. 389-399). Pharma Med Press.
9. Elias PM. Lipids and the epidermal permeability barrier. *Arch Dermatol Res*. 1981;270:95–117.
10. Pritesh Shah, Swati Dhande, Yadunath Joshi, Vilasrao Kadam. A review on *Cucumis sativus* (Cucumber). *Research J. Pharmacognosy and Phytochemistry* 2013; 5(2): 49-53.
11. Aburjai T, Natsheh FM. Plants used in cosmetics. *Phytother Res*. 2003;17:987–1000.
12. S. S. Khadabadi, S.L. Deore, B.A. Baviskar.(2014), *Pharmacognosy and Phytochemistry, A Comprehensive Approach*, published by PharmaMed Press, 1st edition, p.p.8.4
13. Deep C, Saraf S. Novel approaches in herbal cosmetics. *J Cosmet Dermatol*. 2008;7:89–95.
14. Ashawat MS, Banchhor M, Saraf S. Herbal cosmetics: Trends in skin care formulation. *Phcog Rev*. 2009;3:72–9.
15. S. S and CD, K., "Phytoconstituents as Photoprotective Novel Cosmetic Formulations", *Pharmacognosy Review*, vol. 4, no. 7, pp. 1-11, 2010.
16. Evren ALĠIN YAPAR Published on: July 2017 *Indian Journal of Pharmaceutical Education and Research*, 2017; 51(3s):s152-s158 doi:10.5530/ijper.51.3s.3 Herbal Cosmetics and Novel Drug Delivery Systems
17. Lim TK. *Edible and Non-edible Medicinal Plants Vol-2, Fruits*. Springer. pp. 239-249.
18. Kapoor LD. *Handbook of Ayurveda Medicinal Plants*. CRC Press; 2004. p.144

19. Nema NK et al. Cucumis sativus fruit potential antioxidant, antihyaluronidase, and anti-elastase agent. Archives Dermatological Research. 303(4); 2011: 247-252.
20. Rupani R, Chavez A. Medicinal plants with traditional use: Ethnobotany in the Indian subcontinent. Clin Dermatol. 2018 May-Jun;36(3):306-309. doi: 10.1016/j.clindermatol.2018.03.005. Epub 2018 Mar 10. PMID: 29908572.
21. Draelos ZD. New developments in cosmetics and skin care products. Adv Dermatol. 1997; 12:3-17; discussion 18. PMID: 8973733.
22. Epstein H. Cosmeceutical vehicles. Clin Dermatol. 2009 Sep-Oct;27(5):453-60. doi: 10.1016/j.clindermatol.2009.05.007. PMID: 19695476.
23. Lintner K, Mas-Chamberlin C, Mondon P, Peschard O, Lamy L. Cosmeceuticals and active ingredients. Clin Dermatol. 2009 Sep-Oct;27(5):461-8. doi: 10.1016/j.clindermatol.2009.05.009. PMID: 19695477.
24. Brandt FS, Cazzaniga A, Hann M. Cosmeceuticals: current trends and market analysis. Semin Cutan Med Surg. 2011 Sep;30(3):141-3. doi: 10.1016/j.sder.2011.05.006. PMID: 21925366.
25. Draelos ZD. Cosmeceuticals: undefined, unclassified, and unregulated. Clin Dermatol. 2009 Sep-Oct;27(5):431-4. doi: 10.1016/j.clindermatol.2009.05.005. PMID: 19695473.
26. Bissett DL. Common cosmeceuticals. Clin Dermatol. 2009 Sep-Oct;27(5):435-45. doi: 10.1016/j.clindermatol.2009.05.006. PMID: 19695474.