



Formulation & Evaluation Of Aurvedic Moisturizing Cream Containing Shata-Dhauta- Ghrita.

Kishori Hol, Janhavi Kusekar, Ronak Lunawat, Shivani Madake, Pratik Madkar

Pharmaceutical Chemistry

Rasiklal M. Dhariwal Institute of Pharmaceutical Education and Research, Chinchwad, India.

Abstract: In context of skin care Ayurveda recognize the significance of balancing the skin's water content and surface lipids. The objective of the project is to formulate and evaluate a moisturizing cream using Shata-Dhauta-Ghrita as a base. Shata-Dhauta-Ghrita is ayurvedic preparation, which hydrates the skin and prescribed for treatment of wounds, burns, scars and other skin problems. The lab made formulation was subjected to various evaluation including pH, spreadability, Homogeneity, consistency, Irritancy, sensitivity, bleeding and removal test, Microbial test and stability studies. The result shows that the lab made formulation was comparable to the marketed formulation in most parameters and better in some parameters, hence the formulation was found to be good quality. Three different water-in-oil (w/o) cream formulation (F1 to F3) were developed with varying concentration of ingredients. This formulation was evaluated for safety, stability. This study suggests that F1 formulation is more stable and safe.

Key Terms - Shata-Dhauta-Ghrita, moisturizer, hydrating cream, wound healing.

I. INTRODUCTION

The Ayurvedic system of medicine emphasizes the importance of maintaining balance and harmony in the body. Ayurvedic texts such as Acharya Charka highlight the advantages of using nature-derived ingredients like cow ghee in skin wellness. Cow ghee is reported to possess therapeutic properties that promote skin health. Shata Dhauta-Ghrita has benefits like hydrating, deep nourishing properties provides relief from burning sensation, wound removed scars spots, dark circles & heals your crack foot. Cow ghee is considered as Sheeta virya, which provides cooling and soothing effect for your skin. Conventional moisturizer often contains synthetic ingredients like adhesives, emulsifiers and surfactants. These ingredients can disrupt the skin's natural balance and cause irritation that is why there is a growing need to develop moisturizers that use natural ingredients and minimize the use of synthetic agents these approaches can help skin natural balance and reduce the risk of irritation. Ayurvedic preparations often use natural and organic ingredients, reducing the risk of side effects. Ayurvedic formulation have been tested and refined over centuries, ensuring their efficacy and safety. The objective of this study is to formulate a moisturizing cream using nature-derived ingredients with focus on minimizing the use of synthetic agents.

Therapeutic properties

- 1] Moisturizes and repairs the skin with healthy fats and minerals.
- 2] Soothing for dry and flaky skin.
- 3] Provides cooling effect on inflamed, sunburned, irritated skin.
- 4] Combats wrinkles, fine lines, and dark spots.
- 5] Leaves the skin nourished, radiant, and glowing.

II. INTRODUCTION FOR MOISTURIZING CREAM

A moisturizing cream is topically applied product designed to increase the skin's water content and restored the skin's protective barrier function ingredients use in these product have a range of actions, including preventing transepidermal water loss there by replenishing the skin moisture content.

A moisturizing cream is a skin care product designed to reveal healthy, plump and supple skin with optimal hydration and nourishment. It provides long lasting moisture to dry skin. Rich in antioxidant and essential fatty acids helping to protect and repair the skin. It helps to calm irritate skin and reduce dryness. Regular use can help improve skin elasticity.

Moisturizing cream plays a vital role. Our Shata Dhauta Ghrita moisturizing cream is a carefully crafted blend of natural ingredients inspired by ancient ayurved designed to provide long lasting hydration and nourishment to skin

Therapeutic Benefits:-

Relieves dry skin conditions: Helps to relieve dry skin conditions such as eczema, psoriasis, and dermatitis.

Soothes sunburned Skin: It helps to soothe and calm sunburned skin.

Reduces irritation: helps to reduce irritation and inflammation associated with dry skin.

Improve skin health: Regular use of moisturizing cream can help to improve overall skin health.

1. Materials used in formulation:-

1.1] Shata Dhauta Ghrita:-



Shata Dhauta Ghrita

It also known as "100 times washed ghee," is a traditional Ayurvedic preparation of ghee (clarified butter) that has been used for centuries to moisturize and treat various skin conditions. Shata Dhauta Ghrita's preparation is described in ancient Ayurvedic texts, such as **Charaka Samhita**.

The process involves washing pure cow ghee 100 times in a copper vessel with water, using a technique called "Dhauta Sanskara."

Traditionally used to treat various skin conditions including: Wounds, Burns, Scars, Herpes Other skin diseases

Benefits -

- 1] Deeply nourishes and moisturizes the skin.
- 2] May help reduce wrinkles and other signs of aging.
- 3] Promotes healing and repair of damaged skin.
- 4] Provides a cooling and soothing effect on irritated or inflamed skin.

While rooted in traditional Ayurvedic practices, Shata Dhauta Ghrita is gaining attention for its potential as a natural skin care product, offering a chemical-free alternative for skin moisturizing and repair.

1.2] Frankincense essential oil



Frankincense essential oil

It is a powerful anti-aging ingredient. This oil can help you look younger by reducing wrinkles and fine lines while also giving you a beautiful glow. Frankincense has been used to help keep the skin appearing youthful and supple since Ancient Egypt.

Frankincense oil is rejuvenating properties help to reduce the appearance of stretch marks and scars. It will soothe and relieve inflammation. Antioxidants present in the frankincense oil protect against free radicals and help to repair damaged skin cells.

1.3] Saffron



Saffron

Saffron, also known as "Kesar," is a luxurious spice derived from the flowers of *Crocus sativus*. Kesar has been used for centuries in traditional medicine and skincare for its numerous benefits. saffron's rich antioxidants combat free radicals, minimizing fine lines and wrinkles for a smoother complexion.

Saffron's crocin content can help inhibit the production of melanin, resulting in a brighter, more even-toned complexion.

1.4] Bees wax



Bees wax

In cosmetics, beeswax is typically used as an emollient. Since it is a natural emollient, it can maintain the suppleness and moisture of your skin. With its powerful anti-inflammatory and anti-allergic benefits, it helps to plump and firm the skin while soothing eczema and rosacea. Beeswax contains vitamin A, which aids in the formation of collagen, which promotes the healing of scars and strengthens it. The properties of beeswax are essentially the same whether it is yellow or white. In addition to their antiseptic and restorative qualities, it is effective acne treatments can lessen acne breakouts by softening the skin and keeping it moisturized without clogging pores. Different colours of yellow beeswax can result from its purity and refining process. Select yellow if you would like your beeswax to be all-natural. Because beeswax is non-comedogenic and non-irritating, it is suitable for all skin types. Moreover, beeswax functions as an emulsifier. A powerful blender is required to make a beeswax water-in-oil emulsion. A cream with bees emulsion is not very pleasant to use, and it loses its good structure quick.

1.5] Almond oil



Almond oil

Almond oil, obtained from the seeds of the almond tree (*Prunus dulcis*), is a popular natural remedy for skin care for radiant, smooth skin. Almond oil is a natural and effective solution. Rich in nutrients, antioxidants, and fatty acids, almond oil offers numerous benefits for the skin. Almond oil's fatty acid content helps lock in moisture, leaving skin feeling soft, smooth, and hydrated. It boosts cell renewal for firmer and more radiant.

4.6] Rose water



Rose water

Rose water offers numerous benefits for the skin, including hydration, soothing irritation and redness, balancing skin oils. Rose water is a natural skin hydrator, helping to replenish lost moisture and maintain the skin's natural moisture barrier. Leaving the skin refreshed and revitalized. Rose water provides a cooling and refreshing sensation, making it ideal for tired or stressed skin.

III. CHEMICAL CONSTITUENTS

Ghee:- A clarified butter which is predominantly composed of lipids [majorly Triglycerides, phospholipids, sterols, Fats soluble Vitamins, Carbonyls & free fatty acids like linolenic acid & palmitic acid.

Raw Materials	Uses
ShatDhautaGhrita	Soothes irritation, wound healing and deep moisturizing
Frankincense oil	Scar and dark spot reduction, anti-aging
Saffron extract	Rich in antioxidant, boost collagen production
Bees wax	Thickener
Almond oil	Locks in moisture and skin nourishment
Glycerine	Humectant
Rose water	Soothing and reduce sensitivity
Vitamin E oil	Emollient
Benzoic acid	Preservative, act against fungal infection
Ascorbic acid	Antioxidant vitamin load
Lavender essential oil	Fragrance and flavouring agent

IV. EXPERIMENTAL WORK

4.1 Method of preparation

Following step are carried out in preparation of moisturizing cream

4.1.1 Preparation of Shata Dhauta Ghrita

Shata dhauta ghrita means 100 times washed ghee, which is prepared, by washing pure cow's ghee with 100 rotations with fresh cold water in copper vessel in which each cycle has 100 rotations. The reason behind washing it 100 times is because it transforms into a light fluffy and easily absorbable cream base with cooling and hydrating properties, beneficial for skin rejuvenation, various skin conditions.

4.1.2 Preparation of oil phase

Shata Dhauta Ghrita, bees wax, Frankincense oil, almond oil, Vitamin E oil this mixture was combined in a single porcelain dish and heated to 75 °C

4.1.3 Preparation of aqueous phase

Benzoic acid, ascorbic acid, glycerine, saffron extract and rose water was combined into another porcelain dish and heated at 75 °C.

Addition of Aqueous phase to oil phases-

With constant stirring at 75°C, the aqueous phase was incorporated into the oil phase, then cooled to room temperature, and finished with addition of lavender essential oil prior to filling containers.

4.1 Formulation Table:- The ingredients and their respective quantities used in cream formulation are listed below

Sr. no.	Ingredients	F1%	F2%	F3%
1.	Shat Dhauta Ghrita	3gm	3.5gm	4gm
2.	Frankincense oil	1ml	1.5ml	2ml
3.	Saffron extract	0.9ml	0.5ml	0.7ml
4.	Bees wax	0.9gm	0.5gm	1.2gm
5.	Almond oil	1ml	0.8ml	1.5ml
6.	Glycerine	1ml	0.6ml	0.8ml
7.	Rose water	2ml	1.5ml	1.1ml
8.	Vitamin E oil	1ml	1ml	1ml
9.	Benzoic acid	0.3gm	0.2gm	0.4gm
10.	Ascorbic acid	0.3gm	0.2gm	0.3gm
11.	Lavender essential oil	q.s.	q.s	q.s

V. EVALUATION PARAMETERS

The formulated moisturizing cream underwent evaluation for various parameters such as

5.1 Physical evaluation

Colour

Odour

Texture

5.2 pH of cream:

The pH of the cream was determined using a calibrated pH meter, after dissolving 0.5 g of cream in 50 ml of the distilled water.

5.3 Viscosity:

The viscosity of the formulation was measured using a Brookfield viscometer with spindle no. 4 at 100 rpm.

5.4 Homogeneity:

The formulation was evaluated for homogeneity through visual inspection and texture analysis.

5.5 Removal test:

The cream's removability was tested by rinsing the applied area with tap water.

5.6 Irritancy test:

The cream was applied to a marked area on the dorsal surface of left hand and the area was evaluated for irritancy, erythema and edema at interval for 24 hrs.

5.7 Stability test:

The prepared formulation underwent accelerated stability testing at two-temperature condition: room temperature for 7 days and $40^{\circ}\text{C} \pm 1^{\circ}\text{C}$ for 30 days with evaluation on days 0, 15, 30.

5.8 Spreadability test:

The sample's spreadability was determined by applying it between two glass slides, compressing it to a uniform thickness with a 100g weight for 5 min and measuring the time required for the upper slide to lower slide over the lower one under added weight.

5.9. Microbial growth test

The microbial growth inhibition was assessed by streaking Muller Hinton agar plates with microorganisms, applying the formulated cream, and incubating at 37°C for 24 hrs.

5.10 Bleeding test

The formulation's stability is evaluated through bleeding test, where it is subjected to a temperature change from refrigeration to room temperature and observe for signs of liquid separation or instability.

5.11 Sensitivity Test

The sensitivity test, also known as a diagnostic patch test, involves applying a small amount of cream on the skin patch, which is then covered and left on for 24-72 hours to assess potential skin reaction.

VI. RESULT & DISCUSSION:

Physical evaluation:

The formulated cream's physical properties were evaluated based on its visual appearance, colour, odour.

Table 6.1: Physical properties of Moisturizing Cream

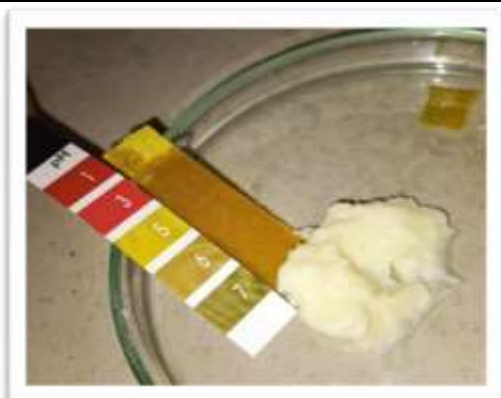
Test	F1	F2	F3
Colour	Yellowish white	Yellowish	Yellowish
Odour	Pleasant	Characteristics	Characteristics
Appearance	Semisolid	Semisolid	Semisolid



The pH of prepared cream was found to be near approximately (5.51) which were compatible with skin pH (5.5). Therefore prepared formulation suitable for topical application and cannot produce any side effect on topical application.

Table 6.2: pH of cream

Sr. No.	Formulation	pH
1	F1	5.5
2	F2	5
3	F3	5.4



Table

6.3: Irritation Test

Test	F1	F2	F3
Irritation test	No irritation	No irritation	No irritation

Topical applications of formulated cream on right hand surface for specific time (24hour) do not produce any irritation edema , and any skin problem.

Table 6.4: Sensitivity Test

Test	F1	F2	F3
Sensitivity test	Nil	Nil	Nil

Table 6.5: Bleeding Test

Formulation	Freezing[10min]	Room Temperature [10min]
F1	No change in Consistency	No change in Consistency
F2	No change in Consistency	No change in Consistency
F3	No change in Consistency	No change in Consistency

Table 6.6: Stability Test (F1)

Day/Test	0 th Day	15 th Day	30 th Day
Physical Appearance	Semi solid	Semi solid	Semi solid
Texture	Smooth	Smooth	Smooth
Colour	Yellowish white	Yellowish white	Yellowish white
Odour	Pleasant	Pleasant	Pleasant
pH Value	5.5	5.5	5.5
Thermal stability	Good	Good	Good
Degradation of product	No Degradation	No Degradation	No Degradation

Table 6.7: Stability Test (F2)

Day /Test	0 th Day	15 th Day	30 th Day
Physical Appearance	Semi solid	Semi solid	Semi solid
Texture	Thick Smooth	Thick Smooth	Thick Smooth
Colour	Yellowish	Yellowish	Yellowish
Odour	Charateristics	Charateristics	Charateristics
pH Value	5	5	5
Thermal stability	Ok	Ok	Ok
Degradation of product	No Degradation	No Degradation	No Degradation

Table 6.8: Stability Test (F3)

Day/Test	0 th Day	15 th Day	30 th Day
Physical Appearance	Semi solid	Semi solid	Semi solid
Texture	Smooth	Smooth	Smooth
Colour	Yellowish	Yellowish	Yellowish
Odour	Characteristics	Characteristics	Characteristics
pH Value	5.4	5.4	5.4
Thermal stability	Good	Good	Good
Degradation of product	No Degradation	No Degradation	No Degradation

Table 6.9: Removal Test

Test	F1	F2	F3
Removal test	Easily Removable	Easily Removable	Easily Removable

Table 6.10: Viscosity

Test	F1	F2	F3
Viscosity test	28005-27023cps	27145-26980cps	27290-26930cps

Table 6.11: Homogeneity

Test	F1	F2	F2
Homogeneity	Positive	Positive	Positive

Table612: Spreadability test

Test	F1	F2	F3
Spreadability	Good	Good	Good



Microbial growth test: There were no signs of microbial growth after incubation period of 24 hrs. at 37 °C and it was comparable with the control.

V. CONCLUSION

The increasing demand for natural and bioactive ingredients in cosmetics has led to the development of innovative formulations. This study focused on creating a cream using Shata Dhauta Ghrita, an Ayurvedic preparation of ghee (clarified butter) washed 100 times.

The prepared formulation showed excellent spreadability, making it easy to apply topically. The cream demonstrated no phase separation and maintained good consistency throughout the study period.

Visual appearance, texture, and fragrance remained consistent, with no significant variations during the study.

The formulation can be safely used topically to protect the skin against damage and provide moisturization.

This study successfully developed a cream using Shata Dhauta Ghrita, which demonstrated excellent stability, spreadability, and consistency. The results suggest that this formulation can be effectively used to protect and moisturize the skin, promoting health.

REFERENCES

- 1] R.N shah, B.M Methal, A handbook of cosmetics
- 2] Marvins S. Balsam, Edward Sagarin, " Cosmetics Science and Technology"
- 3] Raymond C. Rowe, Paul J, Sheskey, and Marinnan E, Quinn, " Pharmaceutical Excipients"
- 4] Akash Mali, Karekar P.D r &YadavA.V.Formulation& Evaluation of Multipurpose Herbal cream. Internation journal Science & Research (IJSR)
- 5] N.R.patil, H.U.momine, R.L.mohiot. "Prearation and evaluation of Multipurpose Herbal cream"
- 6] P.P. Sharma A, Text Book of Cosmetic page no (635-689)
- 7] ShatdhautaGhrita - A Evaluation Study in Pediatrics.
- 8] Comparison of Physical Characteristics of Vanishing Cream Base, Cow Ghee and Shata-Dhauta-Ghrita as per Pharmacopoeial Standards Ravindra r.p. and Pata muslim k.
- 9] A Critical Review on GO-Ghrita, Shata Dhouta Ghrita And Sahasra Dhouta Ghrita Ashok Kumar B.N., Shiv Om Dixit, Sanjaykumar B. Patel Scholar,
- 10] Department Of Rasashastra and BhaishajyaKalpana, SDM College of Ayurveda, Udupi.
- 11] The Role of Moisturizers in Addressing Various Kinds of Dermatitis: A Review SchandraPurnamawati, MD, NikenIndrastuti, Dr, [...], and TatanSaefudin, MD
- 12] Kotta Kranthikumar, K.Sasikanth, M.sabareesh, N.Dorababu, "Formulation and evaluation of Diacerein Cream", volume 4, Issue 2, 2011.
- 13] V. V. Paithankar, "Formulation and evaluation of herbal cosmetic preparation using safedmusli", volume 2, Issue, 2010.
- 14] FabrizioSpada, Tanya M Barnes, and Kerry A Greive "Skin hydration is significantly increased by a cream formulated to mimic the skin's own natural moisturizing systems"
- 15] Ankush Sharma, Bharat Prasar, "Formulation and evaluation of herbal cosmetic cream to produce multi-purpose effect on skin" Issue 2013.
- 16] Mirela Moldovan, AbirLahmar, Catalina Bogdan, SimonaParauan, "formulation and evaluation of water in oil cream containing Herbal active ingredients and Ferulic acid".

- 17] Sujith S Nair, Molly Mathew and Sreena K, "Formulation and evaluation of herbal cream containing Curcuma Longa", Volume 1(4) Oct- Dec 2012.
- 18] Beneficial use of Cetaphil® Moisturizing Cream as part of a daily skin care regimen for individuals with rosacea, Sabine Laquieze, Janusz Czernielewski & Eszter Baltas Pages 158-162 Received 26 Oct 2006, Accepted 29 Oct 2006, Published online: 12 Jul 2009.
- 19] "Effect of moisturizers on epidermal barrier function" Marie Lodén, MSc Pharmlowasterisk, correspondence Email the author MSc Pharm Marie Lodén, Eviderm Institute AB, Bergshamra Allé 9, SE-170 77 Solna, Sweden
- 20] Performance and Tolerability of the Moisturizers Cetaphil® and Excipial® in Atopic Dermatitis: What is the Evidence Based on Randomized Trials Authors Esther J. van Zuuren Email author Zbys Fedorowicz Bernd W. M. Arents 20. Jaya Gade, Snehal more, Navin Bhalerao "Formulation and Characterization of Herbal cream containing Fenugreek seed extracts" International journal of
- 21] Scientific and Research Publications, Volume 5, Issue 10, October 2015. ISSN 2250-3153.
- 22] Supriya Deshpande, Avinash Deshpande, Suresh tupkari & Anoop Agnihotri"
- 23] Shata – Dhauta – Ghrita – A case study" Indian Journal of Traditional Knowledge Vol.8(3), July 2009, pp.387-391
- 24] Mirela Moldovan, Lorelai Ciortea "Efficacy Evaluation of Different Cream Formulations on Healthy Skin Properties" FARMACIA, 2010, Vol.58,6
- 25] Kapoor Shweta, Saraf Swarnlata "Formulation and Evaluation of Moisturizer Containing Herbal Extracts for the Management of Dry Skin" August 2010, Vol 2, Issue 11
- 26] Fuad Al-Rimawl, Hiba Jaraiseh "Formulation and Evaluation of a
- 27] Moisturizing Day Cream Containing Olive Leaves Extract" International Journal of Development Research, October 2014.
- 28] 25.<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.sciencedirect.com/science/article/abs/pii/S1773224722002015&ved=2ahUKEwjG1azhZr2MAxVAyTgGHQZMDoQQFnoECCAQAQ&usg=AOvVaw2QOIasdBnDWc9DSqEToSyw>
- 29] 26.https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.clinikally.com/blogs/news/frankincense-oil-in-modernskincare%3Fsrsltid%3DAfmBOoqoVUgh9s_fv3wJt84C0GoJCHIAP3RL8sIqKTKUionD8pJtmxP&ved=2ahUKEwjG1azhZr2MAxVAyTgGHQZMDoQQFnoECFUQAQ&usg=AOvVaw2fkxdhWp5E_OOZ1MZSFnPq
- 30] 27.<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://formulabotanica.com/frankincense-beauty-formulation/&ved=2ahUKEwjG1azhZr2MAxVAyTgGHQZMDoQQFnoECFAQAQ&usg=AOvVaw01L3WBVqZnF8en8ayoLKsX>
- 32] 28.https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.researchgate.net/publication/313330831_Biological_Activities_of_Frankincense_Essential_Oil_in_Human_Dermal_Fibroblasts&ved=2ahUKEwjG1azhZr2MAxVAyTgGHQZMDoQQFnoECE8QAQ&usg=AOvVaw1_P1Ybp50V7_TJRDB4HpuM
- 34] 29.https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.nivea.in/advice/rose-water-benefits-for-face&ved=2ahUKEwjH1f_91b2MAxWthq8BHZioMqsQFnoECFgQAQ&usg=AOvVaw1MR973Rai4gKTbXa8uXPLz
- 36] 30.https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.researchgate.net/publication/331906604_Assessment_of_Rose_Water_and_Evaluation_of_Antioxidant_and_Anti-inflammatory_Properties_of_a_Rose_Water-Based_Cream_Formulation&ved=2ahUKEwjH1f_91b2MAxWthq8BHZioMqsQFnoECCAQAQ&usg=AOvVaw2zBIrSTkUbJKnmHjA50
- 37] 2ahUKEwjH1f_91b2MAxWthq8BHZioMqsQFnoECCAQAQ&usg=AOvVaw2zBIrSTkUbJKnmHjA50

II-