

BOTANICAL INNOVATION IN SKINCARE: MURRAYA KOENIGII FOR RESTORING AND REJUVANATING SKIN OVERNIGHT

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ABSTRACT

Herbal cosmetics are meant to improve and beautify the appearance of people. The current study used the Oil-in-water method to develop and assess Poly herbal Night Cream including plant extracts (*Murraya koenigii*), Bees wax as a lubricant, Methyl paraben as a preservative, and Neem oil as an antibacterial agent to nourish and moisturize the skin. Coconut oil and Jasmine oil are used to make the Night cream. Pharmaceutical creams are used for a variety of cosmetic functions, such as moisturizing, cleansing, beautifying, and altering appearance. These semi-solid preparations are safe for use by the general public and society. Herbal cosmetics are goods that are used to improve and beautify human appearance. The purpose of the current study was to create and evaluate poly herbal Night cream using plant extracts prepared using the oil-in-water method to nourish and moisturize.

KEYWORDS: *Murraya koenigii*, Night Cream, Aloe vera.

INTRODUCTION

Cream is a preparation used for the application to the skin. Creams are also applied to the mucus membrane such as vagina, rectum. Creams may be considered as pharmaceutical products and cosmetics used in variety of skin conditions. The demand of cosmetics due to the availability of herbal cosmetics is increasing predominantly. Herbal formulations are receiving more concentration in public because of their high-quality properties and less side effects. Additionally, it also provides the skin with necessary nutrients and required moisture.

The herbal cream is basically water in oil type of emulsion. The natural ingredients are chosen for preparation of herbal cream. The choice of these ingredients is based on their individual properties. Aloe vera is used as a moisturizer and anti-acne agent. There are different types of creams like cleansing, cold, foundation, vanishing, night, massage, hand, and body creams. The main aim of our work is to develop a herbal cream which can give multipurpose effect, like moisturizer, reduce acne and skin irritation, reduce skin diseases like eczema, psoriasis, dry skin, wrinkles, rashes and adding glow to the face.

Night Cream

Night creams are a wonderful solution for taking care of your skin. Night cream is a special type of moisturizer designed to be used before bed for optimal results. Unlike other night time skincare products, these creams are usually thicker and heavier in consistency. Night creams are an essential part of any skincare routine, as they provide many benefits that can help keep your skin looking and feeling healthy. Using a night cream can help to protect your skin from the environment and harsh chemicals by creating a protective barrier that locks in hydration. It also helps to replenish lost moisture and improve texture, while providing additional anti-aging protection. In addition, natural night creams often include beneficial ingredients such as antioxidants and botanical extracts that can reduce inflammation, restore skin elasticity, and protect against future damage. These ingredients also help to promote cell turnover for clearer, healthier looking skin.

Advantages of Night cream

- Night cream provides good moisturizing to the dry parts of your face. Therefore, your face is kept hydrated.
- It soothes your face.
- Night cream boosts collagen production in your skin.
- The cream also helps in better blood circulation.
- The night cream also helps in wrinkle reduction.
- It helps your skin to restore its elasticity.

Disadvantages of Night Cream

- Always choose a night cream that is free of sulfates, parabens, and alcohol – which may otherwise irritate the skin.
- Night creams may contain active ingredients and fragrances that may trigger allergic reactions and irritate sensitive skin. To avoid this, do a patch test before using a new night

cream.

- Some night creams can be heavy or greasy, potentially leading to clogged pores and acne breakouts. opt for non-comedogenic night creams if you have oily or acne-prone skin.
- High-quality night creams can be expensive

MATERIALS AND METHODS

- **Selection of API and Ingredients:** - The main API of the Night Cream was (**Murraya Koenigii**) and other natural ingredients chosen for the preparation were (Neem oil, Coconut oil, Jasmine oil, Aloe vera, Rose water etc). The choice of the ingredients is based on their individual properties.
- **Collection of all Ingredients**
 - The API (Murraya Koenigii) was procured from LMCP Herbal Garden.
 - Coconut oil was purchased from Sharad Pharmacy.
 - Aloe-vera gel was purchased from Sharad Pharmacy.
 - Jasmine oil was purchased from Sharad Pharmacy.
 - Neem oil was purchased from Sharad Pharmacy.
 - Rose water was purchased from Sharad Pharmacy.
 - Bees wax was taken from the LMCP college laboratory.
 - Glycerine was taken from the LMCP college laboratory.
 - Methyl paraben was taken from the LMCP college laboratory.
 - Cetyl alcohol was taken from the LMCP college laboratory.
 - Gold foil was purchased from local jewelry shop.
- **Extraction of Herbal Ingredient:** - Leaves of Murraya Koenigii were washed properly keep aside for shade dry after proper drying process coarsely powdered it and then Extracted it with the Help of Soxhlet apparatus.



Fig no. 1: Murraya Koenigii Dried Leaves.



Fig no. 2: Drying process of Murraya Koenigii leaves in tray dryer.



Fig no.3: Grinding process of dried leaves



Fig no.4: Sieving process of grinded leaves



Fig no.7: Extraction process of Murraya Koenigii leaves powder using Soxhlet apparatus



Fig no.8: Prepared Extraction of Murraya Koenigii leaves which is used in the formulation

Material uses in Night cream**API (Active Pharmaceutical Ingredient)****Murraya Koenigii**

Synonyms: Bergera Koenigii, Chalcas Koenigii

Family: Rutaceae

Biological source: The biological source of Murraya koenigii is its leaves, commonly known as curry leaves. These leaves are obtained from the Murraya koenigii plant, which belongs to the Rutaceae family. The plant is native to India and is widely cultivated in tropical and subtropical regions.

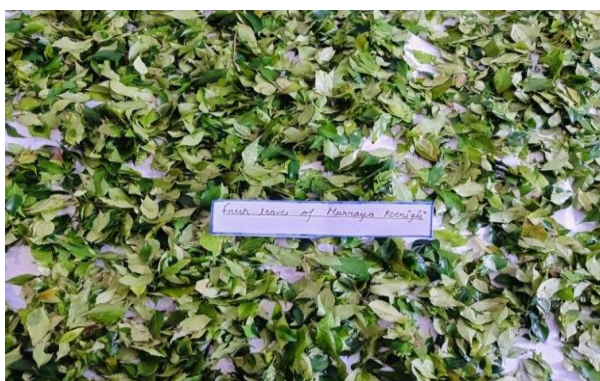


Fig: Murraya Koenigii Leaves.

Uses in Cosmetics

- Antioxidant Properties: Rich in antioxidants, they help combat oxidative stress.
- Anti-inflammatory Effects: Curry leaves have natural anti-inflammatory properties.

Neem oil

Synonyms: Margosa oil, Nim oil

Family: Meliaceae

Biological source: Neem oil is obtained from the seeds of Azadirachta indica.

Uses in Cosmetics

- Skin Care – Treats acne, eczema, and dry skin.
- Hair Care – Helps in reducing dandruff and promoting hair growth.
- Wound Healing – Has antibacterial properties that aid in wound healing.
- Anti-Fungal Agent – Treats fungal infections like athlete's foot and ringworm.
- Soap and Cosmetic Industry – Used in making soaps, lotions, and beauty products.

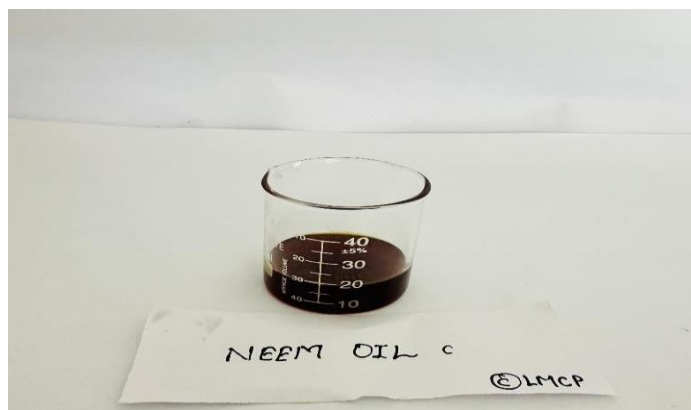


Fig: Neem oil.

Coconut oil

Synonyms: Copra oil, Cocos oil

Family: Meliaceae

Biological Source: Coconut oil is the oil expressed from the dried solid part of endosperm of coconut, *Cocos nucifera* L., belonging to family Palmae.



Fig: Coconut oil.

Uses in Cosmetics

1. Skin Care – Treats acne, eczema, and dry skin.
2. Soap and Cosmetic Industry – Used in making soaps, lotions, and beauty products.

Jasmine oil

Synonyms: Jessamine oil, Jasmin oil, King of Oils

Family: Oleaceae

Biological source: Jasmine oil is an essential oil obtained from the flowers of *Jasminum grandiflorum* and *Jasminum sambac*.

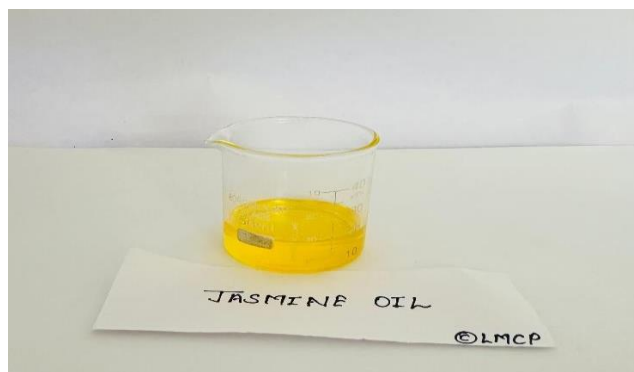


Fig: Jasmine oil.

Uses in Cosmetics

1. Aromatherapy: Used for relaxation, reducing stress, and uplifting mood.
2. Skincare: Helps in moisturizing dry skin, reducing scars, and preventing acne.
3. Hair Care: Strengthens hair, prevents dandruff, and adds shine.
4. Anti-inflammatory: Reduces skin redness, irritation, and swelling.

Aloevera

Synonyms: Aloe barbadensis, Ghritkumari, Lily of the Desert.

Family: Asphodelaceae

Biological source: Dried latex of leaves.

Uses in Cosmetics

1. Skincare – Used for treating acne, sunburn, and moisturizing skin.
2. Hair Care – Promotes hair growth and reduces dandruff.
3. Wound Healing – Accelerates healing of cuts and burns.
4. Anti-Inflammatory – Reduces swelling and pain in arthritis.
5. Cosmetics Industry – Used in creams, lotions, and beauty products.



Fig: Aloe vera gel.

Bees wax

Synonyms: Natural Wax, Apian Wax, Moom, Cera Alba, Cera Flava.

Family: Beeswax is a natural secretion of honeybees and does not belong to a plant family. Instead, it is classified under the biological family of honeybees.

Biological source: the biological source of beeswax is the wax secretion of worker honeybees (family Apidae, genus *Apis*). Beeswax is a natural substance secreted by worker honeybees belonging to the genus *Apis*. The primary species producing beeswax include.

- ***Apis mellifera*** (Western honeybee – main commercial source)
- ***Apis cerana*** (Asian honeybee)
- ***Apis dorsata*** (Giant honeybee)



Fig: Bees wax

Uses in Cosmetics

1. Moisturizer & Skin Protector – Forms a protective barrier, prevent moisture loss.
2. Lip Balm & Chapstick – Heals dry, chapped lips.
3. Lotions & Creams – Used in body butters and salves for hydration.
4. Makeup Products – Found in lipsticks, mascaras, and foundations for texture.
5. Anti-Aging & Healing – Contains vitamin A, promoting skin regeneration.
6. Eczema & Psoriasis Relief – Soothes irritated skin.
7. Wound Healing – Used in balms and ointments for cuts and burns.

Glycerin**Synonyms:** Glyceraldehyde**Family:** Aldehyde

Biological source: Glycerol, also known as glycerin or propane-1,2,3-triol, is a naturally occurring compound derived from both plant and animal sources.

Uses in Cosmetics

1. Cosmetics: A key ingredient in moisturizers, creams, and lotions for skin hydration.
2. Soap and Personal Care Products: Used in transparent soaps and toothpaste for smooth texture.



Fig: Glycerine

Cetyl alcohol**Synonyms:** 1-Hexadecanol, Palmityl alcohol, Hexadecanol-1

Family: It is a chemical compound and does not belong to a specific plant family, the Arecaceae (Palm family) and Asteraceae (Sunflower family) provide plant-based sources.

Biological source: Cetyl alcohol is a fatty alcohol derived from

Natural sources: Obtained from spermaceti (wax from sperm whale oil, historically used),
Extracted from plant oils such as coconut oil, palm oil, and rapeseed oil.

Synthetic sources: Produced by the hydrogenation of fatty acids from petroleum-based sources.

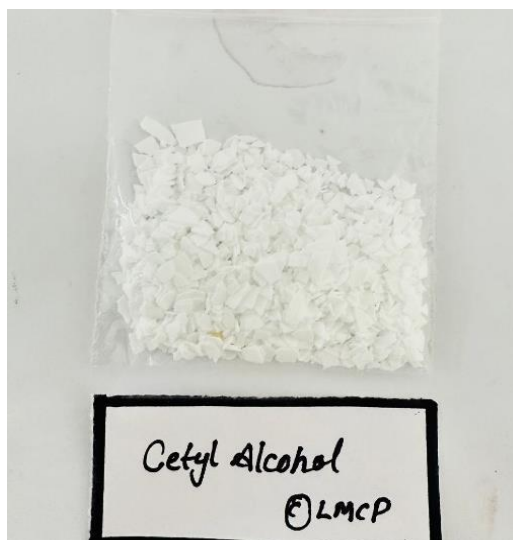


Fig: Cetyl alcohol.

Uses in Cosmetics

1. Pharmaceuticals: Used as an emulsifier and stabilizer in creams and ointments.
2. Cosmetics: Commonly found in lotions, moisturizers, and hair conditioners for texture improvement.
3. Soaps and Shampoos: Enhances the foaming and conditioning properties of cleansing products.

Methyl Paraben

Synonyms: Methyl p-hydroxybenzoate, 4-Hydroxybenzoic acid methyl ester, Nipagin M

Family: It belongs to the paraben family, which consists of p-hydroxybenzoate esters.

Biological source: Methyl paraben is found naturally in some plants and fruits, particularly in

- Blueberries (*Vaccinium* spp.)
- Carrots (*Daucus carota*)
- Barley (*Hordeum vulgare*)
- Strawberries (*Fragaria* spp.)

Uses in Cosmetics

1. Preservative in Cosmetics – Used in creams, lotions, and shampoos to prevent microbial growth.
2. Personal Care Products – Present in deodorants, toothpaste, and shaving gels.
3. Antifungal Agent – Helps inhibit fungal growth in various formulations.

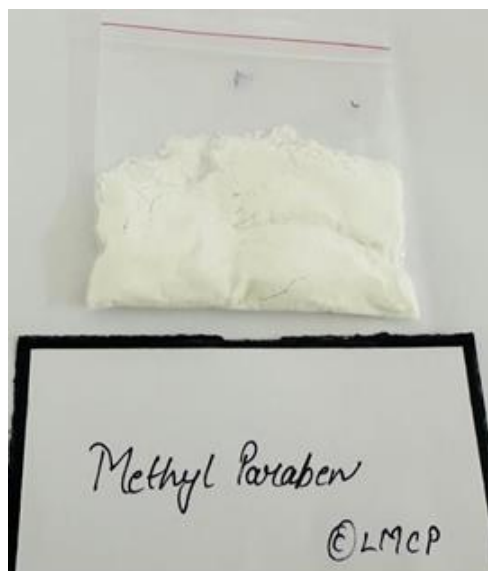


Fig: Methyl paraben

Rose water

Synonyms: Rose Hydrosol, Rose Distillate, Rose Floral Water, Aqua Rosae.

Family: Rosa damascene and Rosa centifolia

Biological Source: Rose water is obtained from the fresh petals of the rose plant, primarily from the following species.

- **Rosa damascena** (Damask Rose) – Most commonly used for high-quality rose water.
- **Rosa centifolia** (Cabbage Rose) – Also used for aromatic and cosmetic purpose.

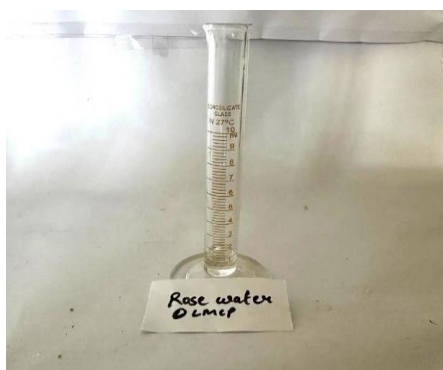


Fig: Rose water.

Uses in Cosmetics

1. Eye Care – Used as an eye wash to reduce redness and irritation.
2. Soothes Sore Throat – Used as a gargle for throat infections.
3. Hair Perfume – Leaves hair smelling fresh and floral.
4. Natural Toner – Balances skin pH and tightens pores.

5. Hydrating Mist – Refreshes and moisturizes dry skin.
6. Acne Treatment – Soothes irritation and reduces breakouts.
7. Anti-Aging – Rich in antioxidants that help reduce fine lines and wrinkles.
8. Dark Circle Reduction – Helps lighten under-eye puffiness.
9. Makeup Remover – Gently cleanses and removes impurities.

Preparation Of Night Cream

Procedure

Firstly, Take Cetyl alcohol, Bees wax, Glycerine, Neem oil, Coconut oil in a beaker and heat it at (75°C) and maintain the heating temperature (Oil phase)



In other beaker take *Murraya Koenigii* extract, Methyl paraben, Rose water and Aloe vera gel (Aqueous phase) mix them together and heat the mixture at (75°C)



Mix the oil phase in water phase slowly-slowly with continuous stirring



When the cream was formed then add fragrance and gold foil in the formulation



Then transfer, cream into the container and store cream in geometric manner to provide a smooth texture



The prepared cream was evaluated by different parameters and result was mentioned & concluded.

Evaluation Of Night Cream

- **Organoleptic Properties:-** The Night Cream was studied for Organoleptic Characters Such as Color, Odour, Consistency and Appearance.



Fig: Determination of Organoleptic properties of formulation.

- **pH Test:** - About 0.5ml of the cream weighed and dissolved in 50 ml of distilled water and its pH was measured by pH meter and pH paper.

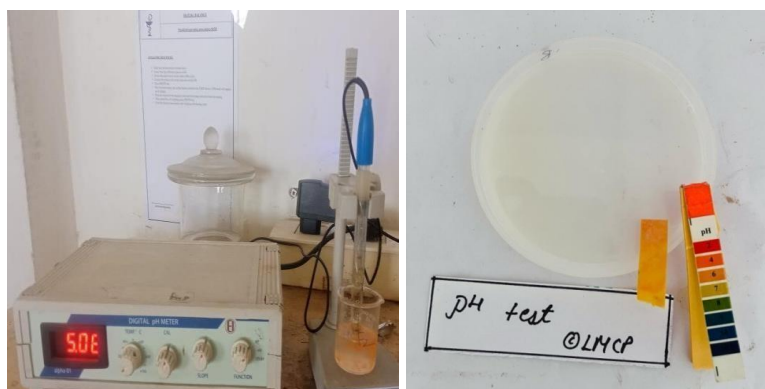


Fig: pH determination of Night cream.

- **Spreadability test:** - The Test of Spreadability Consisted of Applying the Product (At Room Temperature) Repeatedly onto a Glass Slide to Visually Observe the Uniformity in the formation of the Protective Layer.



Fig : Spreadability test of Night cream.

- **Irritancy test:** - This test was performed to check that Night cream does not cause irritation, redness and inflammation while applying on the skin at different intervals of time.
- **Washability test:** - The removal of Cream applied on the skin was done by washing under tap water with minimal force to remove it.
- **Viscosity:** - To determine the viscosity using a Brookfield viscometer to ensure it remains flowable but not too runny.

RESULTS AND DISCUSSION

Compositions of Night Cream

Table: Composition of Night cream.

Compositions	Quantity for 50 gm
Murraya Koenigii	1 ml
Aloevera	30 gm
Neem oil	3 ml
Jasmine oil	1 ml
Coconut oil	1.5 ml
Bees wax	3 gm
Glycerine	7 ml
Cetyl alcohol	3 gm
Methyl paraben	0.5 gm
Gold foil	Q.S
Rose water	Q.S

1. Physical Evaluation

Table: Physical Evaluation of Night Cream.

State	Semi solid
Colour	Light greenish
Odour	Pleasant
Texture	Smooth
Consistency	Excellent

2. pH Determination

The pH of Night cream was found to be (5.8) near to Neutral pH this would not cause any irritation to skin.

3. Spreadability Test

Prepared Night cream, initially has shown Good, Uniform, No Fragmentation & Perfect Application, Without Any Deformation at Room Temperature.

Irritancy Test

Table: Irritancy test of Night cream.

Test (T)	Time (Minute)	Results
T1	15 min	No irritation
T2	30 min	No irritation
T3	45 min	No irritation
T4	60 min	No irritation

4. Washability Test

The Night cream was easily and readily washable under tap water.

5. Viscosity

Viscosity of Night cream was found to be in specified range which matches with appropriate viscosity of cream.

6. Stability Studies

Stability of drug can be defined as the time from date of manufacture and the packaging of the Formulation, until its chemical or biological activity is not less than a predetermined level of labeled potency and its physical characteristics have not changed appreciably. The purpose of stability testing is to provide evidence on how the quality of a drug substance or drug product varies with time under the influence of variety of environmental factors such as temperature, humidity, and light, enabling recommended storage conditions and shelf-lives. Stability studies were carried out for 1 month/ 30 days at room temperature (25.0 ± 3.0 °c), refrigeration (4 ± 2.0 °c) and oven temp.

CONCLUSION

Nowadays herbal cosmetics one gaining popularity. Among customers These is a growing demand for herbal cosmetics in the world market and They are invaluable Gifts of Nature. The herbal cream was Prepared from herbal extract and have different significant activity in formulation. The formulation F1, F2 and F3 are stable at room temperature and can be safely use on skin. The various parameter of herbal antiaging Cream Was Performed such as pH, Viscosity, Spreadability, irritancy. The use of bioactive ingredients in cosmetic influence biological function of skin and provide nutrients necessary for healthy skin. Night cream helps in and protecting skin damage from external environmental conditions, in combination with a *Murraya Koenigii* which helps in recovering and healing skin damage and promoting its growth which is used as a major component in cold cream for avoiding skin damage in winter

and help to repair from that damage. Other excipients like Neem oil and Aloe vera act as cleansing and anti-oxidant agents which help in the cleansing action of the cream. Evaluation of cream is done to get accurate results and check cream properties and its manufacturing quality and evaluated against the standards.

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