



Formulation and Evaluation of Herbal Lotion

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Abstract:

Numerous other researchers have studied the herbal preparation and have created new herbal formulations using new herbs. There were no negative effects from the formulation. Alovera, honey, and moringa powder extract are used to make a herbal lotion that is good for nourishing skin and has anti-inflammatory properties. antioxidant and antiseptic. Regular pH, acid value, and irritancy tests are performed on the manufactured lotion. Due to its moisturizing properties, Alovera gel is used to prevent sunburn and acne as well as dry skin in the summer and winter. The herbal lotion is safe for skin usage because it passes all assessment tests and has no negative effects.

KEYWORDS: Herbal Lotion, Moringa powder ,Alovera,Coconut milk , Honey,Almond oil, Topical Formulation, Herbal formulation and evaluation

Introduction

Natural elements utilized in cosmetic products are included into herbal formulations. The characteristics of the herbs are widely recognized. For instance, alovera, turmeric, etc. The best ayurvedic herbs are also indicated by the fact that Rishi's invented ayurveda in India. Ayurveda has validated the formulation that contains the herbs. Herbal treatments provide the body with a wealth of nutrients and other beneficial minerals. A herbal lotion that is free of toxins and may effectively protect skin. Compared to formulations based on chemicals, they are natural and have been proved to be safe for usage. Lotions are applied directly to the body and are semi-liquid in consistency. The richness of saffron, along with the advantages of moringa extract, coconut milk, honey, and alovera, helps to nourish the skin, prevent dryness in the summer and winter, and give the skin a modest glow. The lotion has cooling, calming, and protecting properties. [1]

Lotion Benefits:

- Re-hydrate dried skin.
- Replenish extra dry or rough spots on the skin.
- Feel and smell good.
- Help yourself relax.
- Soften the roughest parts of your body.
- Make your skin glow.

Advantages of herbal lotion:

- Easy to manufacture
- Easy to available and found in large of variety of plants
- They do not provoke allergic reactions and do not have any negative side effects.
- They are easily incorporated with skin and hair.
- Extract form of the plants decreases the bulk properties of the cosmetics and gives appropriate pharmacological effects.[2]

Collection of Material:

The fresh Alovera leaves were taken from garden , Moringa powder from store ,Rose oil, Coconut milk, and Almond oil were made at my home . Honey was collected from my localized area. Saffron was collected from local market of Satara.

The objective of an herbal lotion made with moringa powder, saffron, glycerine, rose oil, lavender oil, honey, and aloe vera is to provide a nourishing, hydrating, and rejuvenating skincare solution. Let's break down the benefits of each ingredient:

Moringa powder: Rich in antioxidants and vitamins A, C, and E — helps fight signs of aging, promotes skin repair, and reduces blemishes.

OBJECTIVES:

Saffron: Known for its brightening properties — improves complexion, reduces pigmentation, and gives the skin a natural glow.

Glycerine: A humectant that draws moisture to the skin, keeping it soft and hydrated.

Rose oil: Soothes irritation, reduces redness, and has anti-inflammatory and antibacterial properties— great for sensitive skin.

Lavender oil: Calms the skin, reduces acne, and promotes relaxation with its soothing aroma.

Honey: A natural humectant and antibacterial — locks in moisture, helps heal wounds, and supports skin elasticity.

Aloe vera: Hydrates, cools, and heals — ideal for soothing sunburns, reducing inflammation, and improving skin texture.

Overall objectives of the lotion:

Hydrate and nourish the skin deeply

Brighten the complexion and reduce blemishes Soothe and calm irritation or redness

Fight signs of aging and promote skin rejuvenation

Provide a gentle, natural alternative to chemical-based lotions[2]

DRUG PROFILE:

MORINGA POWDER:



Family: Moringaceae

Biological source: The biological source of the Moringa powder comes from the leaves of Moringa oleifera plant.

Biological Name: Moringa oleifera

Chemical Constituents: Vitamins, minerals, and antioxidants

Benefits of Moringa powder :

1. Rich in Antioxidants: Moringa powder is packed with antioxidants like vitamin C, beta- carotene, and polyphenols, which help protect the skin from oxidative stress, reduce inflammation, and prevent premature aging.
2. Hydration: The vitamins and minerals in moringa powder, including zinc and vitamins A and E, help improve skin hydration and elasticity.
3. Anti-inflammatory Properties: It helps reduce redness, puffiness, and irritation, making it beneficial for those with sensitive or acne-prone skin.
4. Detoxifies Skin: The detoxifying properties of moringa help cleanse the skin, reducing the risk of acne and blemishes.
5. Promotes Collagen Production: Moringa powder is rich in vitamin C, which aids in collagen synthesis, helping to maintain firm and youthful skin.[3]

ALOE VERA:

Family: Asphodelaceae

Biological Source: Dried latex of leaves

Biological Name: Aloe Barbadensis Miller

Chemical Constituents: Flavonoids, Vitamins, Minerals, and Polysaccharides.

Benefits of Aloe Vera :

1. Moisturizes: It hydrates and nourishes the skin without making it greasy, making it ideal for dry skin.
2. Soothes Irritation: Aloe vera has cooling properties that help reduce redness, itching, and inflammation caused by sunburn or skin conditions.
3. Promotes Healing: It accelerates the healing of cuts, wounds, and minor burns.
4. Fights Acne: Its antibacterial and anti-inflammatory properties help reduce acne breakouts and soothe irritated skin.
5. Reduces Signs of Aging: Aloe vera stimulates collagen production, improving skin elasticity and reducing wrinkles and fine lines.
6. Even Skin Tone: Helps lighten dark spots and pigmentation, providing a more even skin tone.
7. Acts as a Sunburn Remedy: It helps in relieving the pain and redness caused by sunburns and accelerates the recovery process.

ROSE OIL:

Family: Rosaceae

Biological Source: The petals of different Rosa species, especially Rosa centifolia L. and Rosa Damascena Mill.

Biological Name: Rosa centifolia L

Chemical Constituents: Monoterpenes, Terpenes, Flavonoids, and Rose Oxide.

Benefits of Rose oil:

1. Moisturizes the Skin: Rose oil is deeply hydrating and can help to maintain moisture levels, making it ideal for dry or sensitive skin.
2. Anti-Aging: The antioxidants in rose oil help fight free radicals, reducing the appearance of fine lines and wrinkles, and promoting a youthful glow.
3. Soothes Irritation: It has anti-inflammatory properties, making it helpful for calming conditions like eczema, psoriasis, and rosacea.
4. Balances Skin Tone: Rose oil can help even out skin tone and reduce the appearance of scars, dark spots, or hyperpigmentation.

SAFFRON:



Family: Iridaceae

Biological Source: Derived from the stigmas of the Crocus sativus plant.

Biological Name: Crocussativus Linnaeus.

Chemical Constituents: Carotenoids, Terpenoids, Amino acids, and Minerals

Benefits of Saffron:

1. Brightens Skin: Saffron is known for its ability to lighten skin tone and reduce hyperpigmentation, providing a natural glow. It also helps even out skin tone by reducing dark spots and blemishes.
2. Anti-inflammatory: Saffron has anti-inflammatory properties that can help soothe irritated skin and reduce redness or swelling.
3. Fights Acne: Due to its antibacterial properties, saffron can help reduce acne outbreaks by preventing bacterial growth on the skin and clearing clogged pores.
4. Anti-aging: The antioxidants in saffron, including carotenoids and vitamin C, help combat free radicals, reducing the appearance of fine lines, wrinkles, and other signs of aging.
5. Improves Skin Texture: Saffron is often used to improve skin texture, making it smoother and softer. It also aids in rejuvenating dull, tired-looking skin.

COCONUT MILK:

Family: Arecaceae

Biological Source: Coconut palm tree

Biological Name: Cocos nucifera

Chemical Constituents: Water, Fat, Carbohydrates, Protein, Vitamins, Minerals, and other chemical constituent

Benefits of coconut milk:

1. Moisturizes and Hydrates: The natural fats in coconut milk help lock in moisture, leaving the skin soft and hydrated, especially for dry or flaky skin.
2. Soothes Skin Irritation: Coconut milk has anti-inflammatory properties that can help calm irritated or inflamed skin, making it beneficial for conditions like eczema or sunburn.
3. Antioxidant Protection: The vitamins C and E in coconut milk help fight free radicals, which can reduce the appearance of fine lines and wrinkles, promoting youthful-looking skin.
4. Promotes Skin Healing: The antimicrobial properties of coconut milk help combat bacteria and fungi, promoting the healing of small cuts, acne, or other skin irritations.
5. Improves Skin Tone: Coconut milk can help brighten and even out skin tone, reducing hyperpigmentation and giving the skin a healthy glow.
6. Reduces Acne: Due to its antibacterial properties, coconut milk can help reduce acne-causing bacteria and keep pores clean, contributing to clearer skin.

HONEY:

Family: Apidae

Biological Source: Derived the bees from flower nectar, pollen, and other plant secretions.

Biological Name: Apis

Chemical Constituents: Sugars, Acids, Minerals, Vitamins, and other compound.

Benefits of Honey:

1. Moisturizes the Skin: Honey is a natural humectant, meaning it attracts moisture from the air, helping to keep the skin hydrated and soft.
2. Anti-inflammatory Properties: It has soothing and anti-inflammatory effects, making it effective for calming irritated or inflamed skin conditions like acne, eczema, or sunburn.
3. Natural Antibacterial: Honey helps in preventing and treating acne by fighting off bacteria that cause breakouts.
4. Promotes Healing: It supports wound healing and helps to reduce the appearance of scars or blemishes.
5. Exfoliates Gently: The natural enzymes in honey help gently exfoliate the skin, removing dead skin cells and leaving the skin smoother.
6. Brightens the Skin: Regular use of honey can help brighten the skin and give it a healthy, radiant glow due to its moisturizing and exfoliating effects.

ALMOND OIL:



Family: Rosaceae

Biological Source: Derived from the seeds of the almond tree, *Prunus amygdalus*.

Biological Name : *Prunus Amygdalus Dulcis*.

Chemical Constituents : Fatty acids, Tocopherols, Phytosterols, and Phenolic compounds

Benefits of Almond Oil:

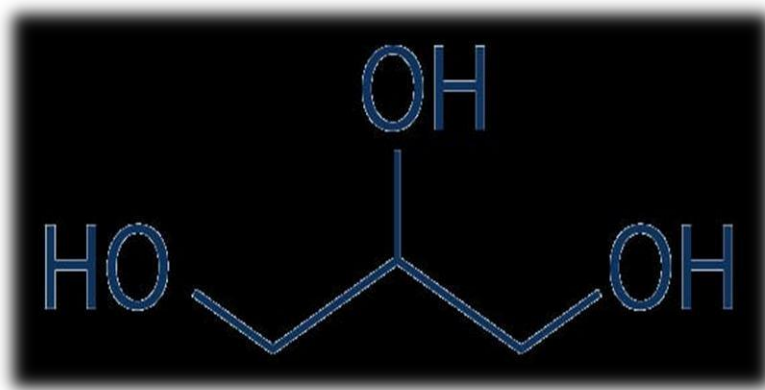
1. Moisturizes: Almond oil is a great moisturizer, helping to keep the skin soft and hydrated.
2. Improves Skin Tone: Regular use can even out skin tone and reduce dark circles under the eyes due to its vitamin E content.
3. Anti-aging: The antioxidants in almond oil help reduce the appearance of fine lines and wrinkles, promoting youthful-looking skin.
4. Treats Dry Skin: It helps soothe and restore dry, flaky skin, making it ideal for people with sensitive or dry skin.
5. Reduces Inflammation: Almond oil has anti-inflammatory properties that can help calm irritated or inflamed skin conditions like eczema and psoriasis.
6. Clears Acne: Due to its ability to deeply moisturize without clogging pores, almond oil can help reduce acne outbreaks by balancing oil production.

VITAMIN E:

Vitamin E is a popular ingredient in herbal shampoos due to its antioxidant, moisturizing, and scalp-nourishing properties. It enhances hair health by preventing oxidative stress, promoting hair growth, and improving scalp condition.

Uses:

1. **Promotes Hair Growth:** Vitamin E has antioxidant properties that help improve blood circulation to the scalp, which can stimulate hair follicles and promote hair growth.
2. **Prevents Hair Loss:** The antioxidant effects of Vitamin E help fight oxidative stress and damage to the scalp, which is a common cause of hair thinning and loss.
3. **Improves Scalp Health:** Vitamin E can help moisturize and nourish the scalp, preventing dryness, flakiness, or irritation. It can also help with conditions like dandruff by keeping the scalp hydrated and balanced.
4. **Strengthens Hair:** The nourishing properties of Vitamin E help strengthen hair strands, reducing breakage and split ends. It also helps restore shine and smoothness to dull, damaged hair.

GLYCERINE:

Chemical Name: Trihydric alcohol

Formula: $C_3H_8O_3$

Structure: Glycerine is a simple polyol (sugar alcohol) compound. It contains three hydroxyl ($-OH$) groups, which are responsible for its hygroscopic (water-attracting) properties.

Appearance: It is a colorless, odorless, viscous liquid that is sweet-tasting and non-toxic.

Uses:

1. Moisturizer: Glycerine is often used in lotions, creams, and soaps to attract water to the skin and keep it hydrated. It helps to maintain skin softness and prevents dryness.
2. Humectant: It attracts moisture from the air, keeping the skin hydrated and preventing dehydration.
3. Soothing Properties: It can calm irritated skin, making it a common ingredient in products designed for sensitive or dry skin.

LAVENDER OIL:



Family: Lamiaceae

Biological Source: Extracted from the flowers and top growth of the lavender plant.

Biological Name: Lavandula

Chemical Constituents: linalool, linalyl acetate, 1,8-cineole, camphor, and terpinen-4-ol.

Benefits of Lavender oil:

1. Acne Treatment: Lavender oil has antimicrobial properties, which can help combat acne-causing bacteria. It also helps reduce redness and inflammation, promoting a clearer complexion.
2. Soothing and Calming: Its calming effects can help soothe irritated skin, making it useful for conditions like sunburns, rashes, and insect bites.
3. Anti-aging: The antioxidants in lavender oil can protect the skin from free radical damage, which can help reduce the appearance of fine lines and wrinkles.
4. Wound Healing: Lavender oil can speed up the healing process of minor cuts, scrapes, and burns by promoting tissue regeneration and reducing the risk of infection.

FORMULATION TABLE:

| Sr No. | Ingredients | Quantity | Uses |
|--------|----------------|----------|---|
| 1 | Moringa Powder | 10ml | Rich in antioxidants, vitamins, and minerals, moringa helps nourish and protect the skin. |
| 2 | Alovera | 5ml | Soothes and calms irritated skin, reduces inflammation, and promotes hydration. |
| 3 | Coconut milk | 4ml | Hydrates and moisturizes the skin, while its fatty acids help repair and nourish. |
| 4 | Honey | 3ml | Natural humectant that locks in moisture, promotes wound healing, and has antibacterial properties. |
| 5 | Saffron | 3ml | Rich in antioxidants, saffron helps reduce inflammation, improve skin tone, and reduce fine lines. |
| 6 | Rose oil | 2 Drop | Soothes and calms the skin, reduces inflammation, and promotes relaxation. |

| | | | |
|----|--------------|--------|---|
| 7 | Almond oil | 2 Drop | Hydrates and nourishes the skin, rich in vitamins A, B, and E, and has anti-inflammatory properties. |
| 8 | Vitamin E | 2 Cap | Antioxidant that protects the skin from damage caused by free radicals, promotes collagen production, and improves skin elasticity. |
| 9 | Glycerin | 3ml | Humectant that attracts and retains moisture, helping to soften and soothe dry skin. |
| 10 | Lavender oil | 2 Drop | Calms and soothes irritated skin, reduces inflammation, and promotes relaxation. |

MATERIAL AND METHOD:

Extraction process:

The technique used to separate active ingredients from plants, herbs, or other natural sources is known as the extraction process. To extract the desired components, plant materials are usually broken down.

Extraction of Moringa extract :

- 1 Soak moring leaf powder in solvent like ethanol water.
- 2 Stir occasionally.
3. Squeeze out the extract using a cloth.
4. Evaporated the extract using a cup over a saucepan over low heat.[4]



Formulation Herbal lotion:

Step 1:

Weigh all ingredients as per formulation.

Step 2:

Alovera was taken in separate clean beaker then stirred it till it gets converted into little bit creamy from .

Step 3:

Then add honey and saffron extract then mixed it.

Step 4:

Then another beaker was taken and in that Almond oil, Lavender oil, Vitamin E oil from capsule and Glycerin was added.

Step 5:

Then this oil solution slowly added in the first beaker and mixed it.

Step 6:

Then add the moringa extract with continuous stirring.

Step 7:

After mixing all ingredients add Rose oil and Coconut milk as per consistency.[5]

EVALUATION PARAMETER:

1. **Physical Appearance:** The appearance of the lotion was observed by visual examination.
2. **Color:** The color of the cream was observed by visual examination.
3. **Odor:** The odor of the lotion was tested by smelling
4. **Ph:** Ph of prepared herbal lotion was measured by using both PH paper & digital PH meter
5. **Spreadability:** Spread ability of formulated lotion was measured by placing sample in between two slides then compressed to uniform thickness by placing a definite weight for defined time.
6. **Irritancy test:** The lotion was applied to a specific area of the left- hand dorsal surface. Irritancy, erythema, oedema were checked up to 24hrs. & reported.
7. **Removal Test:** The ease of removal of the cream applied was examined by washing the applied part with water.
8. **Stability Test:** To check the microbial growth, the formulation was placed in the center of the petri dish, and then the plates were incubated at 37°C for 72hrs.[6]

RESULT AND DISCUSSION:

The herbal body lotion was prepared and subject to evaluation of various parameters. The herbal formulation was greenish in colour. The pH was throughout the study is between 5-6 which lies in the normal pH range of the skin and it does not produce any irritation upon application to the skin. The preparation was stable under normal storage conditions. These results indicated that the herbal lotion has no adverse effect on the topical area. It is showed that this preparation is useful in inflammation and anti aging.

| Sr. No. | Test | Observation |
|---------|----------------|--|
| | | For Formulation |
| 1. | Appearance | Lotion type |
| 2. | Color | Greenish |
| 3. | Odor | Aromatic |
| 4. | pH | 5 |
| 5. | Spreadability | Easily spreadable |
| 6. | Irritancy Test | Non-irritable & non allergic on the skin |
| 7. | Removal Test | Easily removed from the skin by using water |
| 8. | Stability Test | No microbial growth is observed After 6 months |



CONCLUSION:

In this study, a formulation of herbal lotion was formed and evaluated in terms of their organoleptic properties [Appearance, Color and odor] and physiological parameters pH, Spreadability, easy of removal and irritancy test.

The present work focus on the herbal extracts Provide nutrients necessary for the healthy skin. There are numerous herbs available naturally having different uses in cosmetic preparations for skincare as antioxidants. The present study revealed that herbal cosmetic are very safe and does not produce any toxic and adverse reactions compare to marketed cosmetics products. Herbal Lotion we will avoid skin problems.

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