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A REVIEW ON HERBAL LOTION

Dhamdhere Yashanjali Prabhakar[1], Prof. Bhalsing P. G[2], Dr. Mahesh Pandurang Bhosale[3]
[1]Author , [2]Guide, [3]Principle
Dharmaraj Shaikshanik Pratishthan College of Pharmacy, Walki, Agilyanagar 414006.

ABSTRACT
Herbal cosmetics are mixtures intended to enhance and beautify human appearance. This study set out to create and evaluate a herbal antibacterial lotion recipe including a fruit extract with an alcohol basis. The active ingredients in Phyllanthus emblica leaf and Neem have been shown to have tremendous promise for treating a wide range of health ailments in recent studies conducted in many regions of the world. Neem and Phyllanthus emblica formulations are effective against microbial/worm infestation. It has antibacterial, anti- inflammatory, and anticancer properties. Throughout the research period, the produced lotion showed satisfactory homogeneity, pH, consistency and spreadability, and no signs of phase separation. During the course of the investigation, the created lotion's stability characteristics—such as its nature, viscosity, and scent—remained mostly unchanged.
KEYWORDS: *Formulation, Evaluation, Phyllanthus Emblica, Neem, etc.*

1. AIM AND OBJECTIVES

The main aim of a herbal lotion to nourish, moisturize and protect the skin using natural herbal ingredients, while minimizing the side effects commonly associated with chemical-base products.

1. To provide deep moisturization and maintain the skins natural hydration.
2. To use herbal and plant-based ingredients that are safe and gentle on the skin

2. INTRODUCTIO

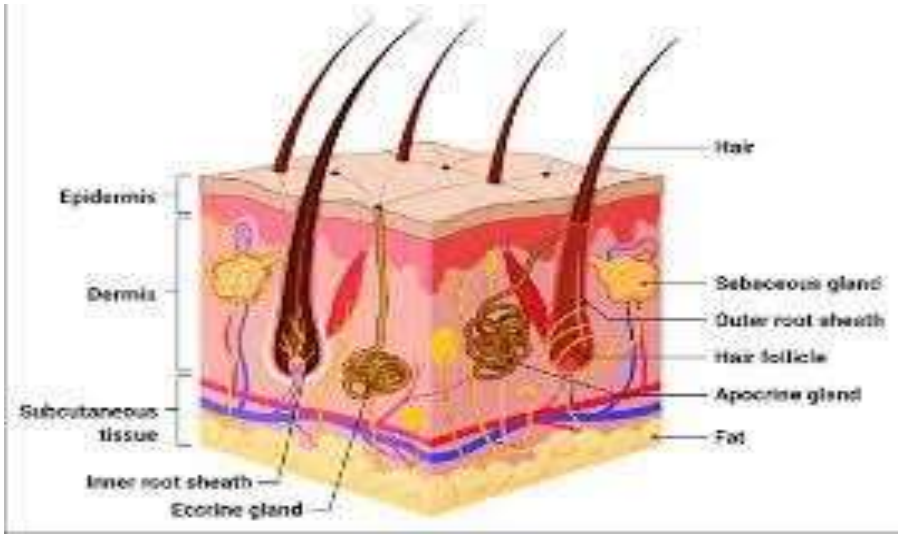


Fig. layers of the skin

The skin serves a variety of purposes and is regarded as the body's biggest organ. The skin regulates body temperature, provides protection, aids in metabolism, and senses.1 The two primary areas of the skin are

- Epidermis
- Dermis
  - Everyone contributing a unique role to the skin's overall function. Adipose tissue is stored in the underlying hypodermis, also known as subcutaneous connective tissue, to which the dermis is linked. This hypodermis is known as the Superficial fascia of gross anatomy.

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SKIN LAYERS

Epidermis

The outermost layer is called the epidermis. The waterproof layer that gives skin its colour is this. Its primary functions are:

- To produce new skin cells;
- To impart colour to the skin;
- To shield the body from the outside environment.
  - There are no blood vessels in the epidermis. Melanocytes generate a pigment called melanin, whichis what gives skin its colour. These shield the skin from UV radiation and are located in the epidermis.

Dermis

Collagen, elastic tissue, and other extracellular elements such as nerve endings, hair follicles, glands, and vasculature make up the fibrous dermis. The dermis's functions include supporting and shielding the skin's outer layers, helping in thermoregulation, and facilitating feeling.

Hypodermis

The lowest layer of skin on your body is called the hypodermis. It serves a variety of vital purposes, including as energy storage, bridging the gap between your skin's dermis and your muscles and bones, insulating your body, and shielding it from injury. Your skin begins to droop and your hypodermis shrinks with age.

FUNCTIONS OF SKIN

Offers a barrier of defence against dangerous materials and mechanical, thermal, and physical harm.

- Prevents moisture loss.
- Lessens the negative effects of UV radiation.
- Aids in controlling temperature.
- An organ of immunity to identify infections, etc.

3. INTRODUCTION OF HERBAL LOTION

- Herbal lotions are concoctions made with phytochemicals derived from various plant sources, whichimpact skin functions and supply essential nutrients for maintaining healthy skin.
- A natural and safe alternative to chemical-based formulations is a herbal lotion that effectively blocks odours without posing any harm.
- Lotions are applied directly on the body and come in a semi-solid state.
- Herbal lotions are described as products that are made using different cosmetic substances that are allowed to be used as a basis, and then one or more herbal ingredients are added to give a specific cosmetic benefit.

The cream serves as:

- Calming
- Soothing
- Protective
  - Lotions are described as a monophasic or biphasic solution, emulsion, or suspension designed to be applied frictionlessly on unbroken, broker, or inflammatory skin. There are four different types of lotions: therapeutic, simple, emulsion, and suspension.
  - Herbal lotion thoroughly nourishes and moisturises skin while absorbing swiftly into the skin. Because of its natural qualities, skin becomes elastic, smooth, soft, and radiant while also maintaining the right ph balance.

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Ideal properties of Herbal Body Lotion

- The product should offer a cooling effect upon application.
- The removal of the particles is recommended.
- Seek out a potential emollient effect.
- Eliminate oily secretions throughout the process of application.
- Distribute them uniformly across the surface of the skin.
- It is imperative that they do not possess any adverse effects on the skin.
- It is vital to guarantee compatibility with the pH level of the skin [14] .

Herbal Body Lotion Benefits

- Replenish dry skin with water.
- Add some moisture back into your rough, dry skin.
- Reduce the discomfort caused by calluses.
- Fourth, make the tactile and olfactory senses happy.
- Take time for yourself and practice self-care to help you unwind.
- Reduce the roughness of your body in the places where it shows the most.
- Make your skin look more radiant.

Advantages of Herbal Body Lotion

- They do not provoke allergic reactions and do not have any negative side effects.
- They are easily incorporated with skin and hair.
- These are very effective than other cosmetics with small quantity.
- Extract form of the plants decreases the bulk properties of the cosmetics and gives appropriate pharmacological effects.
- They have more stability, purity, efficacy, with their herbal constituents.
- The storage and handling of herbal cosmetics is easier and for prolong period .

4. TYPES OF HERBAL LOTION FACE LOTION

FACE LOTION

These are also known as bleaching creams, and they do more to conceal skin tone than to lighten it. similar to whitening lotions.

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FORMULA

Alum : 10 Parts Zinc Sulfate: 1 parts Glycerine: 1 Parts
Tincture of benzoin: 1 Parts Essence of Rose: 30 drops

SHAVING LOTIONS



The content of after-shave lotions is often similar to that of astringent lotions, with a larger percentage acting as a moderate anticeptic to help prevent infection of any abrasion.

HAIR LOTION



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The hair follicles are stimulated with hair lotion. Typically, they are scented with stimulating oil.

ADVANTAGE

- They have no adverse effects and don't cause an allergic reaction.
- They blend in effortlessly with skin and hair. Compared to synthetic cosmetics, they are more effective when used in modest quantities.
- Plant extracts reduce the bulkiness of cosmetics and provide the right pharmacological effects.
- Easily available & found in large variety & quantity. Easy to manufactures and chief in cost.

DISADVANTAGE

- Herbal drugs have slower effects as compare to Allopathic dosage form. also it requires long termtherapy.
- Taste and odour are difficult to disguise.
- The majority of natural medications are not readily accessible.
- The manufacturing process is intricate and time-consuming.
- No pharmacopoeia specifies a particular method or component that must be utilised in any herbalcosmetic.

5. ALOE-VERA

Aloe vera is a popular medicinal plant with antioxidant and antibacterial properties. It may reduce dental plaque, speed wound healing, prevent wrinkles, and manage blood sugar.



Pharmacological properties of aloe-vera

6. MATERIALS AND METHOD

Various material and their role in herbal body lotion formulation are listed below in table.

Table 1: List and uses of ingredients used in the formulation of herbal body lotion

Sr. No	Ingredient	Uase
1.	Aloe-vera gel	Moisturizer
2.	Triethanolamine	Emulsifier
3.	Neem, Tulasi & Papaya	Anti-aging
4.	Glycerin	Humectant
5.	Distilled water	Diluent
6.	Rose Water	Perfume
7.	Steric Acid	Emulsifier
8.	Coconut oil	Improve skin texture
9.	Honey	Preservative
10.	Lemon oil	Perfume

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Plant Material

Aloe-vera, Honey was taken as plant material in this formulation. Aloe-vera was collected from the Botanical Garden, Lucknow Model College of Pharmacy, Lucknow. Honey was purchased from the local market of Krishna Nagar, Lucknow.

Benefits of Aloe-Vera

- Soothes Burns.
- Heals Wounds.
- Eases Intestinal Problems.
- Reduces Arthritic Swelling.
- Heals Psoriasis Lesions
- Gum Infections.
- Eye irritations and injuries.
- Strains and sprains



Fig. Aloe-vera

Honey

Honey is an excellent preservative for aloe due to its long shelf life and compatibility with various substances. Honey is primarily composed of sugar, along with a combination of amino acids, vitamins, minerals, iron, zinc, and antioxidants. Honey is utilized for its various health benefits, including its anti-inflammatory, antioxidant, and antibacterial properties. Honey helps retain moisture in the skin's deeper layers, promoting a healthy and youthful appearance.



Glycerine

- Glycerin uses as moisturizer.
- It soothes dry and irritated skin.
- It treated acne and scars.
- It helps to reduce wrinkles.
- It has Anti - aging property.
- It is used as cleanser.
- It improves skin permeability

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Fig. Honey



Fig. Glycerine

Rose Water

- Rose water is a rich source of anti-inflammatory property.
- It helps to provide a cooling effect and help in reducing itchiness and redness.
- It helps to smoothen skin irritation.
- It hydrates and moisturize the skin.
- It helps maintain the skin's ph balance.
- It improves skin texture and softness.
- It has anti- inflammatory property



Fig . Rose Water

Coconut Oil

- Coconut oil is moisturizing agent and provide dry skin.
- It promotes wound healing and reduce inflammation.
- It contains antibacterial and antifungal properties.
- It has anti- oxidant property.



Fig. Coconut Oil

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Lemon Oil

- It have an antifungal property.
- It helps in the skin lightening.
- It is used as preservative.
- It helps fight wrinkles and other signs of ageing.
- It is used to treat acne and blackheads.



Fig. Lemon Oil

Chemicals

Stearic acid and Glycerine were collected from the chemical store room, Lucknow Model College of Pharmacy, Lucknow.

Stearic Acid

- Stearic acid used as emulsifier to thicken and stabilized the lotion.
- It has emollient property which helps to moisturize the skin to keep it softer and smoother.
- It has occlusive property, protecting the skin surface from Trans- Epidermal Water Loss (TEWL).
- It helps the skin's pH level



Fig. Stearic Acid

Glycerine

Glycerine relieves scalp irritation quickly. Aloe vera soothes sun-damaged skin and hair. Organic Aloe vera fades skin blemishes and rashes. Aloe vera retains moisture, while glycerine brightens skin and hair.

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7. FORMULATION OF EMBLICA LOTION

- **Formulation of lotion**

The lotion was created by quickly combining the non-polar phase with the polar phase to prevent the separation of the water and oil phases. After melting together, the non-polar phase was gradually added to the heated polar phase mixture. Because P.E. has properties suitable with water and A.S. has characteristics compatible with oil phase Contents according to phase are provided below, the following formula was utilised for the manufacture.



Fig. Emblica Tree

- **Required Material**

The following materials were acquired from R. S. Enterprises, Jaipur, Rajasthan: ferric chloride, glacial acetic acid, concentrated sulfuric acid, diluted ammonia solution, chloroform, Fehling's A and B solution, sodium picrate solution, and biuret's reagent.

Among the tools used are an electric mixer, a Soxhlet apparatus, a rotary evaporator, beakers, muslin fabric, a weighing scale, test tubes, test tube holders, and a digital water bath.



Fig. Emblica

Preparation of extract

Each of the 50 grammes of dried fruits were crushed with the separated shells using an electric mixer to create a coarse powder. After that, this was put in a muslin bag and subjected to a 24- hour Soxhlet extractionprocess at 65° C using 90% ethanol as the solvent. The solvent was extracted from the ethanolic extract of the A. S. and P. E. fruits using a rotary evaporator set at a standard temperature of 45° C.

8. FORMULATION OF NEEM, TULASI & PAPAYA

19 grammes of crushed neem leaves were macerated in 150 millilitres of distilled water and left for three days in order to perform the extraction. The solution was placed in the rotary evaporator for about 30 to 40 minutes after three days. Following the method's completion, the extracted material was allowed to dry further in a water bath for around nine to eleven hours, or until it took on a sticky consistency.

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Fig. Neem Tree

The (papaya fruit was cut into pieces & the seeds were removed from it. Then the pieces were crushed by using mortar pastel, After fine grinding, it was taken into a beaker & ethanol (100ml) was put into the beaker & kept it for 20- 25mins for maceration process.




Fig. Tulasi

Sr. No	INGREDIENTS	QUANTITY	USE
1	Neem Extract	3mg	Helps to fight skin incection, promote wound healing & as anti-aging
2	Tulsi Extract	3mg	Prevent blackheads, acne &relieves slininfection
3	Papaya Pulp	10mg	Exfoliates the dead skin cells &cases skinimpurities
4	Glycerine	2ml	Used as humectant
5	Lemon Oil	1.5ml	Anti-microbial
6	Rose Oil	Q.S	For fragrance
7	Gum Tragacanth	4.5mg	As emulsifier & stabilizer
8	Distilled Water	30ml	Used as vehicle

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Fig. Papaya

Suitable For

- Dry, normal, and sensitive skin
- Daily use on body and hands
- Adults and sometimes children (depending on formulation)

How to Use

1. Take a small amount
2. Apply on clean, dry skin
3. Massage gently until absorbed
4. Use twice daily for best results

9. FORMULATION OF MENTHAL

- **Formulation method of lotion**

- Calculate how much of the gel formulation above. Weigh every additional component used in therecipe.
- Grab a large mixing bowl made of plastic or glass.
- Fill the mixing basin with the measured aloe vera gel.
- Next, gradually add the remaining formulation ingredients, such as the calculated amounts of coconut oil, rosewater, vitamin E, glycerin, essential oil, and arrowroot powder.
- Thoroughly combine all of the ingredients in the bowl. Lotion made of herbs was ready.



Fig. Menthal

Procedure

1. Accurate weighing or measuring of the necessary quantity of each ingredient is required.
2. Measure out 0.2 millilitres of menthol and add it to 9 millilitres of alcohol while also adding 0.5grammes of tragacanth.

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3. Fill the capacity to 100 ml with water and add the determined amount of glycerine.
4. Fully combine the ingredients and stir until a smooth mixture is achieved.



Fig. Menthal Post Wax Lotion

Sr. No	INGREDIENTS	QUANTITY (%)
1	Menthol	0.2
2	Powdered Tragacanth	0.5
3	Alcohol	9
4	Glycerine	4.5
5	Water	85.8

10. EVALUATION STUDIES OF HERBAL LOTION

pH: The pH of the lotion will be measured using a digital pH tester. After making a 10% lotion solution, thepH of the mixture will be tested and recorded using a pH metre.

Viscosity: Using a Brookfield viscometer, the LV-64 spindle will be utilised to test viscosity. It will be decided to rotate at 25 revolutions per minute. The prepared lotion will be submerged straight into the spindle to measure its viscosity.

Washability: After applying a little amount of lotion, the hand was let to run under the force of running tap water for ten minutes. It will be observed when the lotion will be fully eliminated.

Look: The lotion's colour, smell, and homogeneity were assessed visually.

Spreadability: The spread ability will be measured in terms of the number of seconds it took for two slides separated by a cream layer under a specific load. The ability to spread is improved by a shorter gap period between the two slides. Standard-sized glass slides were taken in two sets. After that, a slide with the right dimensions will be chosen, and the cream formulation will be put on it.

After that, another slide will be positioned over the formulation. The cream between the two slides will be then evenly compressed to produce a thin layer by applying a weight or other force on the upper slide.

After that, the weight will be taken off, and any extra formulation that had stuck to the slides will be scraped off.

Appearance: The lotion's colour, odour, and homogeneity were assessed visually. Twelve Reliability and Grassiness On the skin, these two parameters were used. They were examined by using skin care products.

The rate at which a product is thought to be absorbed by the skin is called its absorbency by observing changes in the skin's surface. Sluggish, moderate, and fast16.

Viscosity: Using a Brookfield viscometer spindle no. 7 and speed 60 rpm at 25 oC73, the viscosity of the produced gel will be measured. The viscosity of the lotion will be tested when it will be immediately submerged in the spindle

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11. MARKET AVAILABILITY

With the ofline and online segments, the herbal cosmetics market is projected to increase by USD 34–64 billion at a compound annual growth rate (CAGR) of 6.83% between 2023 and 2027.

According to Harry (1962), the primary goal of cosmetic application is to improve the overall appearance of the face and other body parts while significantly reducing the appearance of skin imperfections. It is used to preserve or enhance the condition of the skin.

There is a growing demand for herbal cosmetics in the personal care system and a rise in the use of herbal lotions. The biological activities of skin are impacted by the usage of bioactive substances in cosmetics.
The body lotion is made up of extremely effective herbal elements that give the skin a dull, radiant appearance.



BIOTIQUE White Orchid Brightening Body Lotion

12. CONCLUSION

Evaluation tests for herbal lotions are research & experiments conducted during manufacture that, on occasion, should be conducted post-production by researchers & regulatory bodies.
This study tested and assessed a herbal lotion formulation in terms of its physiological characteristics (PH, spread-ability, after- fill, forms of smear, ease of removal, irritancy test, and test for microbiological growth) and organoleptic features (appearance, colour, and scent). The findings show that the formulation satisfies the norms, proving its chemical soundness

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