



POLYHERBAL CREAM: A REVIEW

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ABSTRACT

Herbal formulations are becoming steadily more popular on the global market, and plants have been reported in the literature to have anti-microbial, anti-oxidant, and anti-inflammatory activity. Herbal cosmetics are beauty products that contain herbal ingredients that have wise physiological activities such as healing, smoothing appearance, enhancing and conditioning properties. Herbs such as aloe vera leaf, sandalwood powder, liquorice powder, rice bran oil, rose water and honey are used in cosmetics.

KEYWORDS: Aloe vera, vinca rosea, rice bran oil, liquorice, sandalwood, honey, polyherbal cream.

INTRODUCTION

The word "cosmetic" comes from the Greek "kosm tikos" that means to have the ability, arrangement, and decorating skill. Herbal cosmetics, also known as products, are prepared using a variety of cosmetic ingredients that are legal to use as a base before adding one or more natural ingredients that are used solely to provide specified cosmetic benefits¹. The "wear and tear" processes that occur over time cause the skin to age. Chronological skin ageing is a universal and imminent process, whereas dermatoheliosis is caused by the sun's UV rays and is visible in the skin that has been exposed to the sun. For external applications, semisolid emulsions of the oil-in-water (o/w) or water-in-oil (w/o) varieties are referred to as "cream"². The Ayurvedic knowledge of nature was the only thing they had to rely on. Numerous plants and herbs were used in Ayurvedic cosmetics for protection against the elements and beautification. The natural ingredients found in botanicals do not have any adverse effects on the human body; instead, they enrich it with vitamins and other beneficial minerals. The Drugs and Cosmetics Act of 1940 and its Rules of 1945 define herbal cream as a product that is designed to be rubbed, poured, sprinkled, sprayed, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering appearance. The cosmetic is excluded from the scope of the drug license preview³. Phytochemicals from a variety of botanical sources are found in herbal cosmetic preparations, which influence the functions of the skin and supply nutrients required for healthy skin or hair. Natural plants and their products used for their aromatic value in makeup preparation are referred to as herbal cosmetics^{3,4,5}. Because it is widely believed that cosmetics with chemical compounds are harmful for the face and because customers are becoming more conscious of the advantages of herbal products, there is an increasing demand for natural products and natural extracts in cosmetic preparations. The Drug and Cosmetics Act prohibits

herbs and essential oils used in cosmetics from claiming to have medicinal properties or to permeate past the skin's surface⁵.

Present Status:

In the modern world, herbalists think that using natural resources can help people improve their health. Due to their completeness, naturalness, and purity as intended by nature herbs are considered food rather than medicine. The body starts to purify and start self-decontaminating when herbs are consumed. Herbs can effectively reposition the body's defence, as opposed to chemically synthesised, highly concentrated drugs that could result in numerous side effects. Herbs don't produce instantaneous cures; instead, they provide a method for re-establishing the body's natural herbs that have been used by people for a very long time⁶.

Herbal cream made with Indian extracts:

The goal of this study is to define and evaluate polyherbal cream, which contains extracts of aloe vera, vinca rosea, rice bran, liquorice, sandalwood powder, and honey.

1. **Aloe vera (Asphodelaceae):** It is a perennial herbaceous plant that is a member of the family Liliaceae and is employed in various medical procedures. Aloe vera is also known for its anti-inflammatory, skin-protective, antibacterial, antiviral, antiseptic, and wound-healing properties⁷.



Figure 1: Aloe vera

2. **Vinca rosea (Catharanthus roseus):** Vinca rosea is an important medicinal plant that belongs to the Apocynaceae family. It is a dicotyledonous angiosperm that contains the terpenes vinblastine and vincristine, both of which are used to treat cancer. Infections of the skin, eye irritation, and bleeding from the skin are also treated with it. It also includes properties like anticancer, wound healing, antioxidant, antidiabetic etc⁸.



Figure 2: Vinca rosea

3.Rice bran (Oryza sativa L): It comes from the outer layer of rice. It is abundant in mineral salts, vitamin E, and essential fatty acids. Rice bran oils have hydrating, microcirculation-enhancing, healing, anti-inflammatory, and decongestant properties for the skin⁹.



Figure 3: Rice bran oil

4.Liquorice (Glycyrrhiza glabra): It's a member of Leguminosae family. Glycyrrhiza is a combination of the Greek words glykys and rhiza, which mean sweet and root, respectively. Liquorice extracts are primarily used in the creation of sunscreens and are also found in variety of personal care products, including toners, makeup removers, and facial cleansers. It aids in maintaining healthy skin and is used to shield your skin from a variety of skin conditions, including rashes, dry skin, eczema, and psoriasis¹⁰.



Figure 4: Liquorice

5.Sandalwood (L.'s Santalum album): It is an important tree connected to Indian culture. In addition to calming irritated skin and reducing breakouts, sandalwood can relieve inflammatory skin conditions like eczema, dermatitis, and psoriasis¹¹.



Figure 5: Sandalwood

6.Honey (honey bee): Honey is a naturally sweet substance that honeybees make from plant nectar. Honey is used to treating inflammation, antioxidants, and bacteria. In addition, it treats wrinkles and sunburns, eliminates acne, imparts a healthy glow, and minimizes wrinkles.



Figure 6: Honey

Advantages of herbal cream¹²:

- It is both safe and effective to use.
- All skin types are compatible.
- There are no negative side effects.
- Products made from natural ingredients.
- Budget-friendly.
- Cosmeceutical.

Formula of Herbal cream formulation:

Sno.	Ingredients	Quantity	Role
1.	Aloe vera gel	2 ml	Anti-ageing, anti-inflammatory, moisturizer and reduce acne and pimples.
2.	Vinca rosea	1 ml	Used to treat acne, eczema, and dermatitis.
3.	Liquorice powder	1 gm	Fade dark scars, treat acne, brighten skin, hide skin damage, and heal wounds and skin infections.
4.	Sandalwood powder	2 gm	Used for skin beautification and protection from sunburn; possesses anti-oxidant properties.
5.	Rose water	q.s	Fragrance.
6.	Rice bran oil	q.s	Anti-oxidant, anti-inflammatory, anti-cancer.
7.	Honey	2 ml	Deeply moisturizes and hydrates the skin, lightens the scars and pigmentation, relieves sunburn, acts as a pore cleanser, and reduces wrinkles.
8.	Borax	2 gm	Alkaline reagent reacts with emulsifying agent to form soap.
9.	Methylparaben	0.1 gm	Preservative.

10.	Beeswax	2 gm	Emulsifying agent, stabilizer and give thickness to cream.
11.	Liquid paraffin	2 ml	Lubricating agent.
12.	Distilled water	q.s	

Table no. 1

Procedure¹³:

Step 1: Heat liquid paraffin and beeswax in a borosilicate glass beaker to 75°C and then hold that temperature throughout the heating process. (Oil phase).



STEP 2. Dissolve the borax and methylparaben in distilled water in a separate beaker. Heat the beaker to 75°C to complete the process of dissolving the borax and methylparaben and obtaining the clear solution (Aqueous phase).



STEP 3: Next, gradually incorporate the heated oily phase into the aqueous phase.



STEP 4: After adding the specified amounts of aloe Vera gel, liquorice and sandalwood powders, honey, rice bran oil, and vinca rosea, stir vigorously for a few seconds to create a smooth cream. Finally, a few drops of rose water can be added for fragrance.



STEP 5: Place the cream on the slab and, if necessary, add a few drops of distilled water. Then, mix the cream geometrically to give it a smooth texture and ensure that all the ingredients are thoroughly combined. Slab technique or extemporaneous cream preparation is the name of this technique.

Evaluation Parameters of Herbal Cream¹⁴:

1.Physical characteristics: During this test, the cream's colour, smell, texture, and state were all noted.

2.Irritancy study: Mark the left-hand posterior surface region (1 cm² Wash capacity). After that, the ointment was administered there, and the duration was recorded. Then, for a period of up to 24 hours, it was examined for irritancy, redness, and oedema, if any, and documented.

3.Washability: After applying small amount of cream on hand, it was washed under running water.

4.Determination of pH: 0.5 g cream was taken and dispersed in 50 ml distilled water and then by using a digital PH Viscosity meter pH was measured.

5.Viscosity: Viscosity of cream was checked by using a Brooke field viscometer at a temperature of 25°C using spindle No. 63 at 2.5 RPM.

6.Phase separation: Prepared cream was kept in a closed container at a temperature of 25-100°C away from light. Then phase separation was checked for 24 h for 30 d. Any change in the phase separation was observed/checked.

7.Spreadability: The spreadability was expressed in terms of time in seconds taken by two slides to slip off from the cream, placed in between the slides, under a certain load. Less time is needed to separate two slides, which increase spreadability. Glass slides with standard dimensions was taken from two sets. Cream formulation was put on a slide after it had been taken and given the proper dimensions. On top of the formulation, the other slide was positioned. The cream between the two slides was then uniformly compressed to form a thin layer after a weight or specific load was applied to the upper slide. After that, the weight was taken off and the extra formulation that had stuck to the slides was scraped off. The weight that was tied to the upper slide gave it enough force to fall off freely. It was noted how long it took the upper slide to detach.

Spread ability= $m \times l/t$

Where m= Standard wt. which is tied to or placed over the upper slide (30g)

l= length of glass slide (5 cm).

t = time taken in seconds.

8.Greasiness: The cream was applied on the skin surface in the form of a smear and checked if the smear was oily or grease-like.

9.Study of compatibility: IR spectroscopy was used to conduct a compatibility study on the herbal APIs, and the IR spectrum of the solid APIs was measured. The range of the IR spectrum that was measured is 4000.12 to 525.03. It had a 75 sensitivity. The characteristic peaks which were checked in the IR spectra are mixture of herbal APIs are 1026.79, 1368.24, 1438.73, 1604.78, 1728.45, and 3289.05 cm^{-1} .

Conclusion:

The use of herbal ingredients in cosmetic products is gaining popularity due to their natural and beneficial properties. The ayurvedic knowledge of nature has been used for centuries to create cosmetic products that are safe and effective for the human body. The demand for natural and herbal products in the cosmetic industry is on the rise as consumers have become more aware of the benefits of using natural ingredients in their beauty routines. The use of herbs and essential oils in cosmetics is governed by regulations to ensure the safety of consumers. The use of herbal formulations can help improve the health and appearance of the skin and hair, and it is considered a safer alternative to chemical-based products. As herbalism continues to evolve and gain recognition, we can expect to see an increase in the development and use of herbal ingredients in cosmetic products.

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