

# A SYSTEMATIC REVIEW ON TULSI AND ALOE CREAM

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## Abstract:

In Which the formulation and evaluation of Multipurpose herbal cosmetics are the preparation used for the improving the individual performance. The main dream to the current study is to prepare the herbal cream like Multipurpose uses. Moisteing nourishing and cure of for the various disease harmful for the Skin. Different crude drugs are used in which the formulation and evaluation of herbal cream that like aloe barbadensis (aloe Vera leaves) such as the antiinflammatory activity antiwrinkle and moistures. Azadirchta indica (Neem leaves) Such as the property of antiseptic, astringent, ringworms infection. Curcuma longa (turmeric rhizome). Emblica officinali (Amla) are used for the formulation of cream. Methyl paraben, coconut oil, Papaya fruit such as enzyme action, cleansing, antiwrinkle properties. Tulsi such as antiseptic and nutritive. Olive oil such as the flavouring agent, cooling agent, antiaging. The selection of the ingredients is based on the showing property of medicinal properties of agents. The is subjected to various evaluation parameters.

**Keywords:** Cosmetics, Multipurpose herbal cream, Cure of Various disease of skin, Tulsi, Neem,

## 2. INTRODUCTION

Creams are semi-strong arrangements containing at least one therapeutic specialists disintegrated or scattered in one or the other W/O emulsion or an O/W emulsion or in one more sort of water-launderable base. The possibility of grandness and magnificence care items is basically essentially as old as humankind and progress. Presently a days the interest of normal magnificence care items are extending bit by bit Local plans for the most part stand apart in view of their extraordinary development and decently lesser or nothing coincidental impacts with fabricated drugs. Magnificence care items are made to decrease wrinkles, fight skin aggravation and to control oil emanation. for various kinds of skin burdens subtleties like skin guarded, sunscreen, unfriendly to skin break out, against blemish and against developing are arranged using combinations of materials, either standard or produced. The skin and hair grandness of individuals depends upon the prosperity, penchants, routine work, climatic conditions, and upkeep. The skin on account of pointless receptiveness to force will dry out during summer and causes wrinkle, spots, blemishes, pigmentation, and sun related consumes. The preposterous winter make hurts the skin as breaks, cuts, maceration, and illnesses. The overall sorts of creams are cold, cleansing, dissipating, foundation, rub, night, hand and body creams. The chief justification behind our work is to sort out a local cream which can convey multipurpose outcome, as moisturizer, reduce skin break out and aggravation, decline skin conditions like psoriasis, dermatitis, wrinkles, dry skin, rashes, etc and moreover add sparkle to the skin. A gigantic measure of creams is existing in the market under the make of normal, shielded, regular, and local. An enormous part of the creams at present existing in the market use the designed polymers, emulsifiers, perfuming trained professionals, shades, surfactants and thickeners to approach the base. There is wide need to substitute destructive fabricated expert from base using typical trained professionals. Aloe vera, Neem, Turmeric ,and Tulsi these four regular trimmings are used in our game plan. Aloe vera goes comparably Unfriendly to developing, alleviating, salve, decrease skin break out and pimples. Neem is used to propel injury repairing, alleviates skin dryness, shivering and redness and reducing pigmentation and scar is also used. Turmeric is used as antibacterial and adds sparkle to the face. Tulsi is used to add sparkle to the skin and to propel injury recovering. The ongoing concentrate accumulate the nuances of normal plants were used in different excellence care items analyzes the constituents and its practices in magnificence care items courses of action.

## Benefits of Herbal Cream

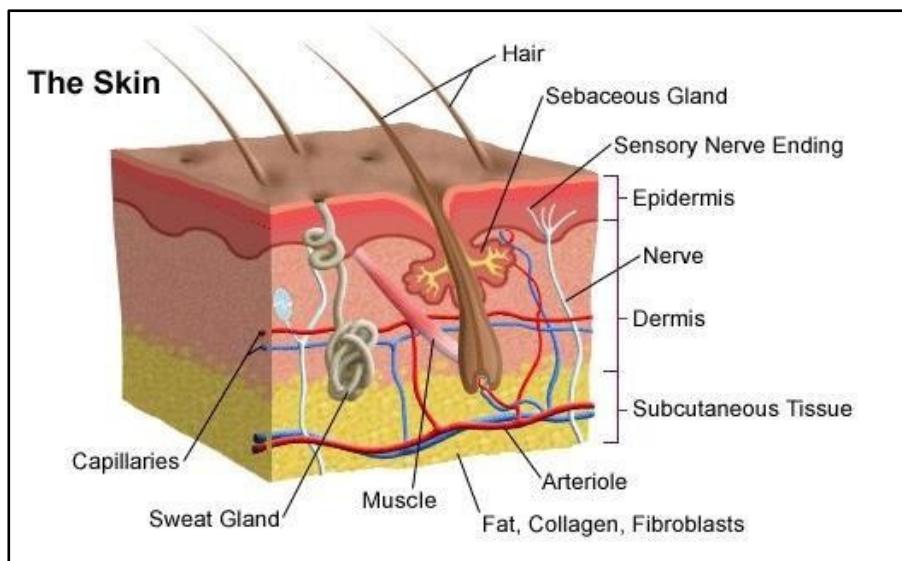
- Treats pimples and acne.
- Controls abundance oil secretion.
- Makes the skin milder and smoother.
- Keeps up pH adjust of the skin.
- Reasonable for all skin types.
- 100% mercilessness free.
- Effortlessly available.
- Economical.
- It improves the vitality level of the body.
- Assortment of phyto-constituents can be joined.

### IDEAL PROPERTIES OF HERBAL CREAM:

- It got to accumulate at inside heat level.
- It needs to not customarily be incapacitated.
- Ought to give a cooling impact on the skin after external application.
- Less smooth than treatment and successfully spread on the skin.
- The pH of the infection cream ought to be astounding from 4.6-6.0.
- It got to enter the epidermis (by proposes characteristic handle).
- Its consistency should be more acceptable to permit basic spreading.
- It should be non-unsafe.
- The excipients became trustworthy with each other.
- It should be sterile.
- It ought to be non-exacerbation.
- It became non-combustible

### 3. ANATOMY OF SKIN:

Skin is the greatest organ inside the body and covers the body's entire external surface. It is a critical and imperative organ. It very well may be a husky surface with hair, nerves, organs and nail. It involves hair follicles which catch hair strands into the skin. It goes about as limit among outside and inside climate. It is comprised of three layers, the epidermis, dermis, and the hypodermis, every one of the three of which change out and out in their life designs and work. The skin's construction is comprised of a confounded arrange which fills in as the body's beginning limit against microbes, UV light, and synthetic compounds, and mechanical harm. The skin has particular thickness and surfaces. It additionally coordinates temperature and the amount of water released into the climate. It licenses sensation like touch, warm, and cold. It also watches the bones, muscles and other essential organs of our body.



**Figure 1** Anatomy of Skin

#### **Epidermis:**

The epidermis is the most superficial layer of the skin and is composed of stratified keratinized squamous epithelium, the thickness of which varies in different parts of the body. It is thickest on the palms and soles of the feet. There are no blood vessels or nerve endings in the epidermis, but its deeper layers are bathed by interstitial fluid from the dermis, which provides oxygen and nutrients and drains as lymph.

#### **Dermis:**

The dermis is stiff and elastic. It is formed from connective tissue and the matrix contains collagen fibers interwoven with elastic fibers. Rupture of elastic fibers occurs when the skin is stretched, resulting in permanent stretch marks or stretch marks that can appear in pregnancy and obesity. Collagen fibers bind water and give the skin its tensile strength, but as this ability declines with age, wrinkles appear. Its deepest layer are areolar tissue and varying amounts of adipose (adipose) tissue.

#### **Subcutaneous Gland:**

These consist of secretory epithelial cells originating from the same tissue as hair follicles. They secrete an oily substance, sebum, into the hair follicles and are present in the skin of all parts of the body except the palms and soles of the feet. They are most numerous in the skin of the scalp, face, axilla and groin. In areas of transition from one type of surface epithelium to another, such as the lips, eyelids, nipples, labia, and glans penis, there are sebaceous glands that are independent of hair follicles and secrete sebum directly to the surface.

#### **4. VARIOUS HERB USED IN PREPARATION OF CREAM:**

Sr.no	Herb	Property
1	Aloe vera	Anti-aging, Cooling benefit
2	Neem	Wound healing, reduce inflammation
3	Tulsi	Anti-oxidant, anti-bacterial
4	Turmeric	Glowness, anti-microbial

#### **Aloe vera**

**Family:** - Asphodelaceae.

**Biological source:** - Dried latex of takes of aloe vera.

**Biological Name:** - Aloe barbadensis miller.

**Therapeutic uses:** A number of advantageous impacts of aloe vera counting immunomodulatory, wound and burn recuperating, hypoglycemic, anticancer, gastro- protective, antifungal, and anti-inflammatory property.



**Figure2:** Aloe Vera

#### **Medicinal Uses:** -

These polyphenols, beside a few of the other compounds in aloe vera, offer assistance anticipate the development of certain microscopic organisms that can cause infection in people. Aloe Vera is known for its antibacterial, antifungal and antiviral properties. This can be one reason why it makes a difference to mend wounds and remedy skin issues. Aloe Vera is regularly alluded to as a corrective utilized to treat sunburn. Also, it may give other wellbeing. benefits, basically due to its antioxidant properties. Preparatory investigate proposes that aloe vera may advantage your skin, teeth, mouth and stomach related wellbeing.

#### **Aloe Vera:**

- Its relieving properties can lessen agony, growing and trickiness of wounds or wounds.
- It affects rashes or sun related burn.
- It upholds the arrangement and arrival of collagen.
- Aloe-vera is rich in saturating properties.
- Forestall or decrease kink and dim spots all over.
- Relieves exasperated skin.
- Wipe out indications of maturing.
- Battles skin break out and imperfections.
- Give your skin a characteristic sparkle.

#### **Chemical Constituents of aloe vera 1. Polysaccharides**

- Acemannan: A primary polysaccharide in aloe vera, acemannan is known for its immune-stimulating and wound-healing properties.
- Aloe vera mannans: These are another class of polysaccharides that are thought to play a role in the anti-inflammatory and soothing effects of aloe vera.

#### **2. Anthraquinones**

- Aloin: A bitter compound found in the latex of aloe vera, aloin has laxative effects and is used as a natural purgative.
- Barbaloin: Similar to aloin, barbaloin is another anthraquinone with laxative properties.
- Emodin: Found in smaller amounts, emodin has been studied for its potential anti- inflammatory, antimicrobial, and anti-cancer properties.

#### **3. Glycoproteins**

- Aloe vera contains glycoproteins that help in reducing inflammation and promoting tissue regeneration. These compounds aid in healing and tissue repair.

#### 4. Vitamins

- Vitamin A (Beta-carotene): Acts as an antioxidant and supports skin health.
- Vitamin C: Known for its antioxidant properties, vitamin C also supports immune function and collagen synthesis.
- Vitamin E: Another antioxidant that helps protect skin cells from oxidative stress and promotes skin health.
- Vitamin B12: Aloe vera is one of the few plant-based sources of vitamin B12, which is important for red blood cell formation and nerve health.

#### MINERALS

Aloe vera contains several minerals, including:

- Calcium: Essential for bone health.
- Magnesium: Supports muscle function and relaxation.
- Zinc: Plays a role in immune function and skin health.
- Copper: Important for collagen production and antioxidant activity.
- Sodium and Potassium: Electrolytes that maintain fluid balance in the body.

#### NEEM

**Family:** -Meliaceae.

**Biological source:** - Fresh or dried leaves and seed oil Azadirachta indica.

**Biological name:** - Azadirachta indica

**Therapeutic use:** - immunomodulatory, anti-inflammatory, antihyperglycemic, antiulcer, antimalarial, antifungal, antibacterial, antiviral, antioxidant, antimutagenic and anticarcinogenic.



**Figure 3: Neem MEDICINAL USES:**

Neem leaves are used for leprosy, eye diseases, nosebleeds, intestinal worms, stomach upset and loss of appetite, skin ulcers, heart and blood vessel disease (cardiovascular disease), fever, diabetes, gum disease (gingivitis), and liver disease. The leaves are also used to control birth and cause abortion.

#### NEEM LEAF POWDER:

- It acts as a shield against dandruff.
- It can be used on both the face and hair.
- Treat dry scalp to make it smooth and shiny.
- Increase radiance and produce an aging effect.
- Increment blood course.
- Aid in the treatment of ulcers.
- Keep skin healthy and glowing.
- Neem has antibacterial properties that will help you get rid of pimples □ Neem lightens and blurs acne scars.
- Neem is calming in nature with unsaturated fats and glycosides.
- Neem is rich in antioxidants and vitamin E, which reduce wrinkles. □ The fatty acids and vitamin E in neem nourish the skin.

## CHEMICAL CONSTITUENTS OF NEEM

### TRITERPENOIDS

Triterpenoids are the most important group of bioactive compounds in neem. These compounds have various therapeutic properties such as antimicrobial, anti-inflammatory, and anticancer activities:

- Azadirachtin: The most well-known and biologically active compound in neem. Azadirachtin has strong insecticidal properties and is also known for its ability to regulate immune responses and inhibit tumor growth.
- Nimbin: A triterpenoid with anti-inflammatory, antimalarial, and immunomodulatory properties.
- Nimbidin: Known for its antimicrobial, anti-inflammatory, and analgesic properties. It also has hepatoprotective (liver-protecting) effects.
- Nimbolide: A triterpenoid lactone with anticancer, anti-inflammatory, and antioxidant effects.

### 2. ALKALOIDS

Alkaloids are nitrogen-containing compounds with significant biological effects. Neem contains several alkaloids:

- Azadirachtin: Known for its insecticidal properties.
- Margosine: An alkaloid that has antimicrobial and anti-inflammatory effects.

### 3. FLAVONOIDS

Flavonoids are a group of polyphenolic compounds with strong antioxidant and anti-inflammatory properties. Some key flavonoids found in neem include:

- Quercetin: A potent antioxidant with anti-inflammatory and anticancer properties.
- Kaempferol: Known for its antioxidant and anti-inflammatory properties, kaempferol also supports cardiovascular health.
- Rutin: A flavonoid with antioxidant and anti-inflammatory effects.

### 4. LIGNANS

Lignans are phytoestrogens and antioxidants found in neem. Some key lignans include:

- Sesamin: A lignan that has antioxidant and anti-inflammatory properties.

### TULSI

**Family:** Lamiaceae

**Biological name:** Ocimumtenuiflorum

**Biological source:** Fresh and dried leaves of Ocimum species like *Ocimum sanctum* L. also, *Ocimum basilicum* L. and so on



**Figure 4:** Tulsi

## MEDICINAL USES:

Sacred basil contains cell reinforcements like L-ascorbic acid and eugenol, which safeguard the heart from unsafe free revolutionaries. Eugenol has additionally been displayed to bring down blood cholesterol levels. Tulsi helps reduce uric acid in the body by having a mild diuretic and identify its effects. The acetic Acid in holy Basil helps dissolve stones. Tulsi is a headache remedy that can relieve migraine pain. Tulsi's anti-inflammatory properties help prevent bacterial, viral and fungal infections, thus supporting eye health. It also relieves the eyes puffins and reduces stress.

## TULSI LEAF

- Natural immunity.
- Reduce stress and blood pressure.
- Good for healthy skin.
- Upholds the soundness of maturing skin.
- Mitigates skin conditions like dermatitis. □ It is good for skin treatment.
- Advantages of vitamin K.

## CHEMICAL CONSTITUENTS TULSI

### 1. ESSENTIAL OILS

Tulsi contains a variety of essential oils, which are responsible for much of its aroma and medicinal properties. Some of the major constituents of tulsi essential oil include:

- **Eugenol:** The most abundant compound in tulsi's essential oil, eugenol has antimicrobial, anti-inflammatory, and analgesic properties.
- **Methyl eugenol:** A compound with antimicrobial and insect-repellent properties.
- **Caryophyllene:** A sesquiterpene that has anti-inflammatory, analgesic, and antimicrobial effects.
- **Linalool:** A terpene alcohol that provides calming, anti-anxiety, and anti-inflammatory effects.
- **Ocimene:** A monoterpenoid with anti-inflammatory and antiviral properties.
- **Cineole (Eucalyptol):** Known for its antiseptic, anti-inflammatory, and analgesic properties.

### 2. PHENOLIC COMPOUNDS

- **Rosmarinic Acid:** Known for its anti-inflammatory and antioxidant effects. It helps protect against oxidative stress and has been shown to support immune function.
- **Caffeic Acid:** An antioxidant that helps protect cells from oxidative damage and supports overall immune health.
- **Urosolic Acid:** A triterpenoid that exhibits anti-inflammatory, antimicrobial, and anticancer activities.

### 3. FLAVONOIDS

Tulsi contains several flavonoids with antioxidant, anti-inflammatory, and antidiabetic properties:

- **Apigenin:** A flavonoid that has been shown to have anti-inflammatory, anticancer, and neuroprotective effects.
- **Luteolin:** A potent antioxidant that supports the immune system and may help reduce the risk of chronic diseases.
- **Kaempferol:** Known for its anti-inflammatory and antioxidant properties, kaempferol also supports cardiovascular health.

### 4. TRITERPENOIDS

Triterpenoids are compounds with diverse biological activities, including anticancer and anti- inflammatory properties.

- **Oleanolic Acid:** Known for its hepatoprotective (liver-protecting) and anti- inflammatory properties.
- **Ursolic Acid:** Found in tulsi, ursolic acid has been studied for its anticancer, anti- inflammatory, and antioxidant effects.

## 5. ALKALOIDS

Tulsi contains several alkaloids, which are nitrogen-containing compounds that have various therapeutic effects:

- **Tulsiine:** An alkaloid with potential antimalarial activity.
- **Ocimumine:** Known to possess anti-inflammatory and antioxidant effects.

## TURMERIC

**Family:** Zingiberaceae

**Biological Name:** Curcuma longa **Biological Source :** Turmeric is the dried rhizome of Curcuma longa Linn.



**Figure 5** Turmeric:

### MEDICINAL USES:

Natural anti-inflammatory, anti-cancer, powerful antioxidant, protects against heart disease, cures or prevents diabetes, prevents Alzheimer's disease, treats depression, improves skin health, prevents eye degeneration, prevents chronic age-related diseases, Treatment of rheumatoid arthritis, Protect your body from free radicals, Help with osteoarthritis.

### BENEFITS OF TURMERIC:

- Improve heart health and prevent Alzheimer's and cancer
- Powerful antioxidant
- Treatment and prevention of diabetes
- Improve skin health
- Add shine to the skin
- Treats depression
- Treats acne
- Reduce dark circles under the eyes
- Could help eczema with psoriasis
- Cleans the skin
- Aids wound healing

### CHEMICAL CONSTITUENTS OF TURMERIC

## 1. CURCUMINOIDS

Curcuminoids are the primary bioactive compounds in turmeric. The most important curcuminoids include:

- **Curcumin:** The most well-known and studied active compound in turmeric. Curcumin is a powerful antioxidant and anti-inflammatory agent, which helps in treating conditions like arthritis, digestive issues, and skin disorders. It also has potential anticancer properties and supports brain health.
- **Demethoxycurcumin:** Another curcuminoid, which has similar antioxidant and anti- inflammatory effects as curcumin but with slightly different potency.
- **Bisdemethoxycurcumin:** A less abundant curcuminoid that contributes to turmeric's therapeutic effects, particularly in its anti-inflammatory and anticancer activities.

## 2. TURMERONES

Turmerones are a group of compounds found in turmeric essential oil. These are responsible for some of turmeric's medicinal properties, including anti-inflammatory, antimicrobial, and cognitive-enhancing effects:

- **α-Turmerone:** A major component of turmeric essential oil, α-turmerone has anti- inflammatory, anticancer, and neuroprotective properties. It has been shown to promote the regeneration of brain cells.
- **β-Turmerone:** Another important compound, β-turmerone is known for its anti- inflammatory and antimicrobial properties.
- **Ar-turmerone:** This compound has shown promise in promoting neural stem cell growth and may be beneficial in treating neurodegenerative conditions like Alzheimer's disease.

## 3. VOLATILE OILS

Turmeric essential oil contains a number of volatile compounds with therapeutic properties:

- Turmerone (as mentioned above), zingiberene, and beta-sesquiphellandrene are some of the key compounds found in turmeric's essential oil, contributing to its anti- inflammatory, antimicrobial, and antioxidant effects.

## 4. POLYSACCHARIDES

Turmeric contains complex carbohydrates (polysaccharides), which contribute to its immune- boosting and anti-inflammatory effects. These compounds help modulate immune function and may help in treating conditions like autoimmune diseases.

## 5. FLAVONOIDS

Flavonoids are antioxidants found in turmeric, providing additional health benefits:

- **Quercetin:** A flavonoid with strong antioxidant properties, quercetin also has anti- inflammatory, anticancer, and heart-protective effects.
- **Kaempferol:** Another flavonoid with antioxidant and anti-inflammatory properties, it also helps to regulate blood sugar and supports cardiovascular health.

## 5. GENERAL METHOD FOR DEVELOPMENT OF HERBAL CREAM

Materials and method (O/W, W/O)



Add the desired amount of the ingredient in sufficient quantity Add water and prepare the solution by heating in a water bath



Add the required amount of herbal extract to the above solution



Add the solution drop by drop to solution 2. When both phases are properly mixed, add methylparaben as preservative.

↓

Formulated Polyherbal Cream was delayed for approx  
an hour in a cool, dry place, in direct sunlight, until it hardens Completely and was used after 48 hours of storage at temperature Room temperature for stability and analytical testing

↓ Packed in a container and stored in a cool place.

## 6. EVALUATION OF MULTIPURPOSE HERBAL CREAM

### MORPHOLOGICAL EVALUATION

- **Physical Properties:** In this test, the cream was observed for color, odor, texture, state

### PHYSICOCHEMICAL EVALUATION:

- **PH:** 0.5 g of cream was taken and dispersed in 50 ml of distilled water, and then the PH was measured using a digital PH meter.
- **Washability:** A small amount of cream was applied to the hand and then washed with tap water.
- **Irritancy Test:** Mark an area (1 cm<sup>2</sup>) on the dorsal surface of the left hand. The cream was applied to the designated site and the time was recorded. Irritation, erythema, edema was monitored at regular intervals up to 24 hours and reported.
- **Viscosity:** Viscosity of formulated herbal creams can be determined by using Brookfield Viscometer at the temperature of 25°C Using Spindle no,63 at.rpm.
- **Homogeneity:** The homogeneity of the preparation was tested by visual appearance and touch.
- **Spreadability:** The cream was set between two glass slides and squeezed to a uniform thickness by putting a 100g load for 5 minutes. A weight was added to the skillet. The time expected to isolate the two slides, for example the time expected for the upper slide to move over the lower slide, was taken as a proportion of Spredability.

$$S = m \cdot l/t \quad m = \text{weight on top sled} \quad l = \text{length shifted onto the glass slide} \quad t = \text{time.}$$

- **Phase separation:** The prepared cream was transferred to a suitable container with a wide mouth. The separation of the oil phase and the aqueous phase were kept aside for storage after 24 hours.

## 7. CONCLUSION

Herbal cream has the best properties and nutritional values, using fewer chemicals to protect the skin from various skin problems. Since the cream was prepared using simple ingredients and a simple method, the cream is also economical. The use of herbal cosmetics is safe and can be used as a barrier to protect the skin. Thanks to the antibacterial and anti-inflammatory properties of various herbs, it prevents skin disorders, improves skin tone, and protects against harmful UV rays. Natural remedies are more acceptable in the belief that they are safer with less side effects than synthetic ones. Thus, the values of herbs in cosmetics have greatly improved in the personal care system, and nowadays, there is an increasing demand for herbal cosmetics.

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