



Formulation and Evaluation of Multipurpose Herbal Cream

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ABSTRACT

Herbal cosmetics are products that are used to ameliorate one's look. The thing of the exploration was to develop a herbal cream for moisturizing, nourishing, decolorizing, and treating colourful skin conditions. Curcuma longa (Turmeric greasepaint), Carica papaya (Papaya), Aloe barbadensis (Aloe- vera leaves), Azadirachta indica (Neem leaves), and Ocimum sanctum (Tulsi leaves) are some of the introductory medicines used to make the cream. The selection of factors is grounded on the agents' colourful remedial characteristics. colourful evaluation parameters are used to the cream. Herbal cosmetics are the medication used to enhance the mortal appearance. The main Aim of our work is to develop an herbal cream which can give multipurpose effect like moisturizer, reduce acne and skin vexation. The cream was prepared by using the cream base that's notions wax, liquid paraffin, Borax, Methyl paraben, Distilled water, Rose oil painting, Aloe Vera gel, Dimethyl sulphoxide, Excerpts of Neem, Tulsi.

Keywords: Cosmetic, Herbal cream, Turmeric, Papaya, Aloe-vera, Neem, Tulsi.

1. Introduction:

The demand of cosmetics due to the vacuity of herbal cosmetics is adding generally Herbal expression entering further attention in public because of their high-quality parcels and lower side goods. It also provides the skin with necessary nutrients and needed humidity. The herbal cream is principally water in oil painting type of conflation. The natural constituents chosen for medication of herbal cream are turmeric, papaya, aloe- vera, Tulsi and neem. The choice of these constituents is grounded on their individual parcels. Aloe-vera is used as a moisturizer and anti-acne agent.[1]

Turmeric is an Asian ornamental useful to conduct a golden radiance to the complexion. It also provides anti-inflammatory and antiseptic parcels. Neem is helpful against a wide range of skin, complaint including eczema, psoriasis, and dry skin. Neem shops has miraculous benefits for skin hair and body health. It's a hustler condiment that's packed with bioactive factors that work well for your beauty needs as well as helps to ameliorate blood rotation and helps to remove poisons from the body. One of the most common neem leaves benefits for skin is that neem treats acne. The factory has antibacterial parcels that fight any kind of flights and also soothes itchy and bothered skin. For people with acne-prone skin, this condiment will come in handy. Benefits of neem on skin are plenty, another superb benefit of neem for face is that you can say farewell to blackheads and papules when used regularly. It shrinks large pores and workshop as an exfoliating agent to pull out contaminations and strain pores. One of the benefits of neem juice for skin is that it actually boosts the collagen- producing enzyme in the body called procollagen and a protein called elastin. This is what gives the skin structure and makes the skin look rotund. As we progress, the product of these composites reduces in the body so this gives it an redundant push. It can also indeed out your skin tone thanks to the numerous antioxidants present in it. One of the benefits of neem on the skin is that it reduces dark spots, saturation, mars and any kind of greenish-ness on your skin.[2]

Tulsi is used to add gleam to the skin and to promote crack mending. The main end of our work is to develop an herbal cream which can give as multipurpose effect like moisturizer, reduce acne and skin vexation, dry skin, wrinkle, rashes, etc. Cosmetic are the products applying on the body.[3]

2. Role of Ingredients:

I. Turmeric:



Turmeric is an Asian ornamental useful to conduct a golden radiance to the complexion. It also provides anti-inflammatory and antiseptic parcels.

Benefits of turmeric in health

- * Natural anti-inflammatory emulsion
- * Ameliorate heart health and help against Alzheimer and cancer
- * Important antioxidant
- * Treat and help diabetes
- * Ameliorate skin health
- * Treats depression
- * Cures acne
- * Reduce dark circles
- * Could help psoriasis eczema
- * Clears the skin Promotes weight loss.[4]

II. Neem:



Neem is helpful against a wide range of skin, complaint including eczema, psoriasis, and dry skin.

Benefits of neem splint greasepaint

- * Acts as a guard against dandruff

- * It can be used for both face and hair
- * Treat dry crown making it smooth and candescent
- * Increase radiance and produce geriatric effect
- * Increase blood rotation
- * Neem lightens and blurs the scars left behind by acne
- * Neem is anti-inflammatory in nature with adipose acids and glycosides
- * Neem is rich in anti-oxidant and vitamin E that reduce wrinkles
- * Fatty acids and vitamin E in neem nourish the skin
- * Help soothe eczema
- * Treat acne
- * Help skin infection
- * Gives indeed skin tone
- * Offers anti-aging benefits.[5]

III. Aloe-vera:



Benefits of aloe- vera for face

- * Its anti-inflammatory parcels can reduce pain, swelling, and soreness of injuries or injuries
- * It has a cooling effect on rashes or sunburns
- * It supports the product and release of collagen
- * Help in keeping your face health and gives you a natural shine
- * Aloe- vera is rich in moisturizing parcels it helps in removing dead cells
- * Help or reduce wrinkles and dark spots of your face
- * Moisturizes dry skin
- * Soothes bothered skin
- * Remove sign of geriatric
- * Fights acne and mars
- * Remove dark circles and air
- * Relieves eczema and psoriasis
- * Eliminates dead skin cells
- * Treat sunburn
- * Bring a natural gleam to the skin

* Hydrated the skin with essential.[6]

IV. Tulsi:



Tulsi is used to add gleam to the skin and to promote crack mending. Benefits of Tulsi splint greasepaint

- * Natural impunity supporter
- * Reduce stress and blood pressure
- * Good for skin health
- * Useful in order gravestone
- * Fight acne
- * Supports healthy skin growing
- * Soothes skin condition like eczema
- * Great for healing skin problem
- * Good source of vitamin K
- * Super salutary for skin
- * Helping anti-aging
- * Control blood glucose position
- * Help order gravestone
- * Reduce stress
- * Help acne. [7]

V. Papaya:



Papaya benefits for skin include:

- * It reduces wrinkles and uses enzymes to work
- * Its anti-inflammatory qualities were utilized. Manage acne Eliminate dead skin cells to improve skin stone formation. Reduces skin irritation
- * Hydrates parched skin. Aid in weight loss
- * Promoting the health of the skin and healing
- * Increases immunity Rich in vitamins, minerals, and antioxidants; protects eyesight; aids in the treatment of hypertension anti-aging qualities cures skin infections. [8]

I. Borax:



In moisturizing goods including creams, shampoos, gels, lotions, bath bombs, scrubs, and bath salts, borax is used to stop or reduce the growth of microorganisms. Borax is used as an emulsifier or buffering agent by cosmetics manufacturers to prevent product ingredients from separating. In moisturizing goods including creams, shampoos, gels, lotions, bath bombs, scrubs, and bath salts, borax is used to stop or reduce the growth of microorganisms. Borax is used as a buffering agent by cosmetics manufacturers.[9]

I. Beeswax:



Beeswax soothes, relaxes, moisturizes, and conditions the skin when applied cosmetically. Another natural exfoliant that works well for removing dead skin cells is beeswax. Creating a lotion bar using beeswax will serve two purposes: it will keep your skin nourished and silky. treats psoriasis, eczema, and diaper dermatitis.[10]

Monograph of every Excipients used:

a. Borax:

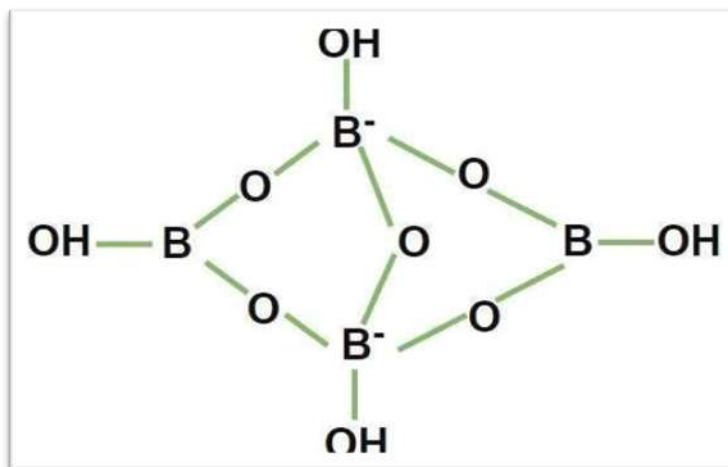
Borax is sodium borate in the form of salt, hydrate, or anhydrous form. It is a colourless, crystalline solid that turns into a basic solution when dissolved in water. It serves as a cleaner. Additionally, it can be found in home products like mouthwash and toothpaste. Also utilized in cosmetics such as sunscreen, moisturizers, lotions, and skin care products.

Molar mass: 381.37g/mol

Formula: $\text{Na}_2 [\text{B}_4\text{O}_5 (\text{OH})_4] \cdot 8\text{H}_2\text{O}$

IUPAC name- Sodium tetraborate decahydrate Melting point: 743°C

Appearance: White or colourless crystalline solid.[11]



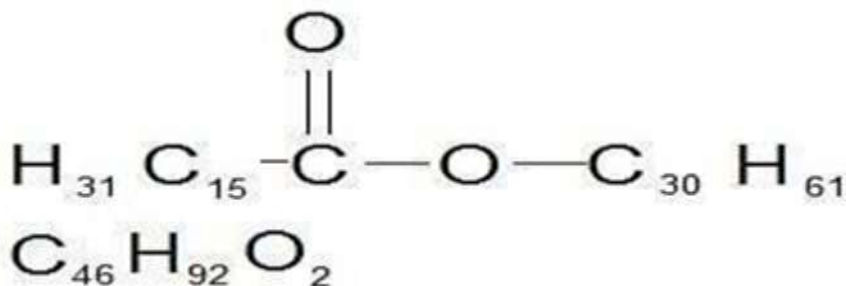
b. Bees Wax:

Beeswax is produced by female worker bees from honey. Natural wax produced by Apis honey bees. Chemically, it is made up of different long chain fatty acid esters. alcohols. Bees wax used as first plastic, as lubricant and water parafing agent as polish for wood and leather for making candles.

Formula: $\text{C}_{15}\text{H}_{31}\text{COOC}_{30}\text{H}_{61}$.

IUPAC Name: Cera Alba

Melting point: 144 to 147 °F. [10]



Active ingredient monograph:

a. Neem:

Azadirachta indica is its botanical name. Neem belongs to the Meliaceae family, which includes mahogany. These days, Azadirachta indica (A. indica) is its botanical name.

Cultivation: Azadirachta indica, a tree of the mahogany family Meliaceae, is sometimes referred to as neem, neem tree, or Indian lilac [3]. It is indigenous to the Indian subcontinent and the majority of African nations, and it is one of the two species of the genus Azadirachta. Tropical and semi-tropical climates are where it is usually grown. Southern Iranian islands are also home to neem trees. Neem oil is extracted from its fruits and seeds. Neem leaf extract is used in medicine to treat lice and lessen teeth plaque. Chemicals found in neem may help lower blood sugar, treat stomach ulcers, avoid pregnancy, eradicate bacteria, and stop plaque from developing in the mouth. The tree's seeds are the source of the extract, which has numerous traditional applications. In addition to its well-known insecticidal and pesticidal qualities, neem is also used in hair and dental products. Neem oil is a popular insect repellent that works well against mosquitoes and sand fleas. Other types of neem can help keep termites under control and keep moths away. Neem is added by some producers to animal washes in order to keep fleas and ticks away. To ward off parasites and pests, they may even incorporate it into grain

or cow feed. As a potent antioxidant, neem combats free radicals, which can contribute to the onset of some illnesses. It has potent anti-inflammatory properties as well. Because of its antibacterial properties, neem may be useful against a variety of bacteria, viruses.[12]

b. Tulsi:

Ocimum sanctum (Linn) is its botanical name.

Tulsi is a fragrant plant that belongs to the Lamiaceae (tribe ocimeae) family of basil. It is believed to have originated in north central India and is now native to the tropical regions of the eastern continent.

Cultivation: Soil type: A variety of soil types are suitable for sacred basil growth. It can also be grown in rich loam, poor laterite, saline, and alkaline to moderately acidic soils. Better vegetative growth is facilitated by well-drained soil. Stunted growth and root rot can develop from waterlogged conditions. **Climate:** It thrives in humid environments with a considerable amount of rainfall. Plant growth and oil production have been demonstrated to benefit from long days and high temperatures. It can reach a height of 900 meters. The plant can withstand frost and drought to a moderate extent. Although it has a low oil content, the plant can be grown in partially shaded settings.

Applications for Tulsi: Tulsi is a fragrant medicinal herb that is frequently consumed alongside other herbs. In the form of tincture, tea, or decoction, the aromatic leaves and blossoms are used to treat coughs, bronchitis, skin conditions, and diarrhea since they are thought to be stomachic and expectorant. Cholera, influenza, and malaria are among the epidemics that these preparations are thought to prevent. When ingested with water, juice, or cow's milk, tulsi seeds are nutritious, mucilaginous, demulcent, and antioxidant. They are used as a general tonic or to cure diarrhea, vomiting, ulcers, and low energy. It is advised to use the powdered dried root in milk, ghee, or as a decoction to treat malarial fever by applying it as an analgesic to insect bites and stings, as well as to boost sexual stamina and avoid early ejaculation. The plant has a stabilizing effect on blood pressure and blood sugar abnormalities and increases resistance to stress. Tulsi is probably going to be a preventative measure against the harmful effects of environmental pollutants, such as cancer. The plant is also abundant in calcium, vitamins A and C, and bioavailable antioxidants. It has a noticeable insecticidal effect on mosquitoes.[13]

c. Papaya:

Carica papaya is its biological name. The tropical fruit *Carica papaya* (L.) is produced in large quantities and consumed in excess due to its tasty taste and many health advantages. The tropical fruit known as *carica papaya* comes in a variety of colours, from yellow orange to orange red. Every part of the plant—fruit, leaves, roots, peel, bark, seed, and pulp—was utilized as medicine. This plant is commonly known as papaya, and its Hindi name is papita. The oval-shaped fruit weighs between one and three kilograms and has a central seed cavity. It is carried auxiliary on the stalk. Additionally, papayas are green in colour, but when they ripen, they turn yellow or red-orange. When fully ripe, fresh fruit turns from yellow to orange to salmon. Melon has a central seed cavity as a result.

Cultivation and collection: It is being grown as a beautiful garden tree all over the world. In the 17th century, it was originally brought to India.

Use in medicine: Papaya is known for its hepatoprotective, antibacterial, anticancer, antifertility, anti-inflammatory, antiulcer, antidiabetic, and antioxidant qualities since it contains phenolics, flavonoids, and alkaloids as active components.[14]

Formulation table:

Sr.no.	ingredients	quantity
1.	Turmeric extract	2.7ml
2.	Ripe papaya	2.7ml
3.	Aloe-vera extract	2.8ml
4.	Tulsi extract	2ml
5.	Neem extract	2ml
6.	Bees wax	6gm
7.	Liquid paraffin	10ml
8.	Borax	2gm
9.	Methyl paraben	1gm

5. Material and method:

Extraction process:

- a. To make turmeric extract, mix 1 gram of powdered turmeric with 10 ml of distilled water, then shake in a 250 ml volumetric flask. [15]
- b. Aloe vera extract preparation: Gather fresh, mature aloe vera leaves from the plant and rinse them. They have been heated in a water bath to 80 to 100 degrees Celsius for five to ten minutes. After filtering, turmeric extract is produced. Then with distilled water. A hot air oven is used to dry it. A sterilized knife is used to cut the leaf longitudinally. Aloe vera that is semi-solid is gathered. Take the Fibers and contaminants out of it. An extract of aloe vera is produced.[16]
- c. Neem extract preparation: Gather fresh neem leaves and rinse them with purified water. After drying it in a hot air oven, 5 grams of neem powder were mixed with 20 ml of ethanol and heated to 100 degrees Celsius for five to ten minutes. After that, a clear solution is obtained by filtering it through filter paper.[17]
- d. Making the Tulsi extract: After being gathered, Tulsi leaves were cleaned in a dried hot air oven and distilled water. The leaves were then ground into a powder following adequate drying. Next, 10 ml of ethanol and one gram of Tulsi leaf powder were placed in a beaker. The solution was then boiled for five to ten minutes at 80°C to 100°C in a water bath before being filtered through filter paper and a clear Tulsi leaf extract.[18]
- e. Preparation of ripe papaya extracts (papaya oil): Put a spoonful of each organic papaya that has been finely chopped and is ripe yet firm in a bowl to prepare the papaya oil. After adding two tablespoons of your preferred unrefined oil, set the bowl over a pan of water that is boiling gently. Throughout the entire oil-making process, the heat should be kept at the lowest setting and the top bowl containing the oil should not come into contact with the water in the bottom bowl. Using the double boiler method, continue cooking in this manner for 30 minutes. It will assist to top off the water every 10 minutes. After half an hour, take off the top bowl and drain the oil. You can now extract the papaya oil.[19]

1. Formulation of cream:

Maintain the heating temperatures (oil phase) at 75°C while the liquid paraffin and bees wax are in a borosilicate glass breaker. Borax and methyl paraben should be dissolved in distilled water in a different beaker that is kept at 75°C with a water bath. Using a glass rod, stir the mixture until all of the solids have dissolved (aqueous phase). Continue stirring while gradually adding the heated aqueous phase to the heated oily phase (Ashara K. et al., 2013). Once the two stages have been combined, add the aloe vera, neem, tulsi, and turmeric extracts right away. Then, add the ripe papaya and continue mixing with a glass rod until a smooth cream appears. Add jasmine oil for scent once the cream has formed.[20]

6. Evaluation of cream:

I. Physical Evaluation

The following physical parameters were used to further evaluate the herbal creams that were created: colour, consistency, odour, and formulation state.

a. Colour:

The colour of the cream was observed by visual examination.

b. Odour:

The odour of cream was found to be Pleasant.

c. Consistency:

The formulation was examined by rubbing cream on hand manually. The cream having smooth consistency.

d. PH:

pH of prepared herbal cream was measured by using digital pH meter. The solution of cream was prepared by using 100 ml of Distilled water and set aside 2h. pH was determined in three times for solution and the average value was calculated.

e. Spreadability:

Spread ability of formulated cream was measured by placing sample in between two slides then compressed to uniform thickness by placing a definite weight for defined time. The specified time required to separate the two slides was measured as Spreadability. Lesser the time taken for separation of two slides results showed better Spreadability.

f. Washability:

formulation was applied on the skin and then ease extends of washing with water was checked.[21]

7. Result and Discussion:

I was ready. In comparison to other formulations, this one has good color, pH, viscosity, and consistency. Additionally, the formulation does not cause skin irritation, redness, or itching, and it is easily washable. At room temperature, the formulation remained stable. Azadirachta indica extracts reduce dryness, irritation, and redness of the skin and aid in the healing of wounds. Ocimum sanctum extract has antimicrobial properties. Additionally, aloe vera gel reduces acne, smoothes skin, and modifies viscosity.



Sr. No.	Evaluation Test	Observation
1	Colour	Aloe Vera White – A very light, almost white color with a hint of green.
2	Odour	Jasmine – A sweet, floral, and slightly exotic fragrance often used for its relaxing properties.
3	Consistency	The cream having smooth consistency.
4	pH	Ranging Between 5.5 to 7
5	Spreadability	Better Spreadability – Evenly Spread On Glass Slide
6	Washability	Oil-Based Creams – Poor Washability by water

8 Conclusion:

The cream's use of papaya, Tulsi, neem, and aloe vera gel demonstrated a multifunctional impact, and each of these herbal constituents displayed notable variations in activity. The formulations were stable at room temperature and could be applied to the skin without risk, according to the results and discussion.

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