

## Formulation and Evaluation of Herbal Face Cream

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### ABSTRACT: -

Aloe vera, strawberry and cucumber peel are medicinal plants they are used as traditionally from ancient years in various herbal medicines such as Ayurveda, Siddha, and Homeopathic. Cosmetics and some medicinal products are made up from the mucilaginous tissue in the centre of aloe vera leaf and called Aloe vera gel. Aloe vera gel contains no Antraquinone. Which are responsible for the strong laxative effects of aloes. However, total leaf extract may contain Antraquinone. Aloe vera contains 75 potentially active constituents like Vitamins, Enzymes, Minerals, Sugars, Saponins, Amino acids. Strawberry are high in vitamin C and vitamin C is known for its anti-inflammatory qualities. It is possible that strawberries could help reduce some of the inflammation associated with acne. The silica is an essential component to keep your muscles, bones, and tendons healthy. It also hydrates our skin, improves complexion and vision.

**Keyword:** Aloe vera, Amla, Cucumber peels, face cream, Evaluation.

### I. INTRODUCTION

The demand of herbal cosmetics due to the availability of new ingredients, the financial rewards for developing successful products and maintained of quality standard. Cosmetics are the products applying on the body. Face cream are used as cosmetic for softening and cleansing action. The Ayurvedic system of medicine was one of the most important systems that uses herbal plant and

extract of the treatment of management of various diseases state. Aloe vera Synonyms-Aloe Barbadensis belong to family- Liliaceae, which having 300 species, Aloe vera is cactus like plant that grow readily in hot, dry climates, and Aloe vera cultivated in very large quantities. Cosmetics and some medicinal products are made up from the mucilaginous tissue in the centre of aloe vera leaf

and called Aloe vera gel. Aloe vera gel contains no Antraquinone. Which are responsible for the strong laxative effects of aloes. However, total leaf extract may contain Antraquinone. Aloe vera contains 75 potentially active constituents like

Vitamins, Enzymes, Minerals, Sugars, Saponins, Amino acids. The garden strawberry widely grown hybrid species of genus *Fragaria* collectively known as strawberry. The fruit is widely appreciated for its characteristics aroma, bright red color, juicy texture and sweetness. A rich source of vitamin C and also it contains 91% water, 8% carbohydrates, 1% protein and contains negligible fat and belonging to family- Rosaceae. Used in the treatment diabetes, high blood pressure and protect from UV light. It is also used anti-aging.

Cucumber (*Cucumis sativus* L.) belongs to Cucurbitaceae family such as melon, watermelon, pumpkin and zucchini. It is widely consumed fresh in salads or fermented (pickles) or as a cooked vegetable. They are widely used for various skin problems including swelling under the eyes and sunburn. It is believed that they promote refreshing, cooling, healing, soothing, emollient and anti-itching effect to irritated skin. The nutrient profile of *Cucumis sativus* L. includes water (96.4%), protein (0.4%), fat (0.1%), carbohydrate (2.8%), mineral (0.3%),

calcium(0.01%), phosphorus (0.03%), iron (1.5 mg/100 g) and vitamin B (30 IU/100 g). Ascorbic acid and Enzyme such as crepsin, proteolytic enzyme, oxidase, succinic, malic dehydrogenase have also been reported in the fruits . The bioactive compounds isolated from cucumber includes cucurbitacins, cucumegastigmanes I and II, cucumerin A and B, vitexin, orientin, isoscoparin  
2''-O-(6'''-(E)- p-coumaroyl) glucoside, apigenin 7-O-(6''-O-pcoumaroylglucoside).

### **Cosmetological Importance Of Aloe**

Aloe vera has been used since ancient times for healing infection and burns. However with the improvement in cosmetology, it has been proved that Aloe vera is a very important component of cosmetics. It contains almost 20 amino acids, minerals like calcium, magnesium and sodium in sufficient quantities, enzymes, vitamins, polysaccharides, nitrogen and other components that make it a miracle beauty herb. Some of the most important applications of Aloe vera for purpose of Cosmetology are being explained here briefly.

### **Itching and Blisters**

Aloe vera also provides relief from itching and also helps to treat blisters. Aloe contains vitamin B1, B2, B6, B12 and vitamin C that provide soothing and pleasing sensation to skin .

### **Skin Aging**

Aloe vera initiates the synthesis of elastin as well as collagen. These proteins are essential for preventing the aging of the skin .

### **Acne**

Aloe vera helps to eradicate acne scars by performing as an immune booster and an anti-inflammatory agent. Beauty products composed of Aloe vera may diminish the rigorousness of acne. It is also composed of the chemical ingredients which have the property to save the skin to initiate the acne.

### **Freshness**

Aloe vera impart the sensation freshness. It helps in increasing distribution of blood therefore providing easier oxygen exchange among the cells, hencegiving them nourishment.

### **Sun-burns**

Aloe Vera has an outstanding possession in diminishing the hurting of sunburn. For this purpose, it is rubbed directly on skin. The fresh fluid from the plant or Aloe vera containing after sun creams may be used for sun-burns .

### **Moisturizing Agent**

Aloe vera may also be used for softening and moisturizing the skin. There are so many products available in the market containing Aloe vera which may be used post-showering to obtain the skin in super soft shape. Aloe vera gel, cream or lotion applied on the face forms a delicious cover that helps to shield the skin from dust and other natural elements which may be injurious to the skin.

### **Pigmentation**

Melanin is a pigment which is responsible for the color of the human skin. Hyper pigmentation is a situation in which large amount of melanin is synthesized. This generally happens due to excess exposure of the skin to the sun. In reaction to UV rays in sunbeams, the skin cells called melanocytes initiate to synthesize melanin.

This increased synthesis of melanin is responsible for the emergence of darkened patches on the skin. Aloe vera has the property of diminishing the pigmentation and dark spots on the face .

**Skin Eruption**

Aloe vera containing creams are beneficial for skin eruptions. Aloe vera gels have been proved to be the best remedy for burns and wounds. Actually, cellular regeneration, anti-bacterial and anti-fungal activities of Aloe vera make it useful for skin eruption .

**Cosmetological Importance Of strawberry****1. Acne Treatment**

Rich in vitamin C, strawberries have anti-inflammatory properties that help soothe and calm down breakouts. They contain salicylic acid, a BHA that cleanses your pores and keeps bacteria away from it. This in return, prevents future breakouts from occurring. Plus, salicylic acid is a great acne-buster and is a popular ingredient in a whole lot of face creams and other skincare products.

**2. Reduces UV Damage**

Antioxidant heavy strawberries help reverse the damage caused by UV rays and free radicals. The damage often results in the premature ageing of skin, as the UV rays often break down collagen. This is a major reason for wrinkles and fine lines to appear more evidently. The antioxidants present in strawberries help reverse that damage and prevent the skin from getting hurt any further.

**3. Puffy Eye Treatment**

One big benefit of strawberries for skin is that it helps treat those raccoon eyes. Dark circles and puffy eyes are a huge issue that a lot of people face and strawberries are a great way to tackle it. Strawberries act as an astringent that helps soothe your under eyes and reduces the inflammation holding those bags down.

**4. Fades Hyper Pigmentation & Dark Spots**

The salicylic acid present in strawberries reduces and fades away hyper pigmentation and dark spots. Strawberries act as a great exfoliator and remove the dead skin cells that pull your skin down. It also tightens the pores and prevents further blemishes from forming.

**5. Improves Skin Health**

A good source of both AHAs and BHAs, strawberries hold a myriad of skincare benefits. From eliminating dark spots to treating acne, they help improve the overall texture and appearance of your skin, and leave you with a brighter and more youthful complexion.

**6. Oil Control**

The vitamin C present in strawberries aids in sebum production and restores a balance in terms of your skin oil levels. While doing so, it moisturises skin and nourishes it thoroughly.

**7. Brightens The Skin**

The juice of strawberries is perfect for instantly lifting up dull skin and brightening it. Since it helps lighten dark spots and blemishes, your skin tends to look brighter and more refreshed and revitalized, all thanks to strawberries.

**8. Anti-Ageing**

Strawberries are rich in ellagic acid, an essential required to prevent your collagen from depleting. This acid protects the skin from UV damage and prevents your collagen from breaking down.

**9. Lip Soother**

Ever noticed how lip balms are often strawberry flavored? It is because it has the power to moisturize and nourish chapped and damaged lips. The salicylic acid helps exfoliate the dead skin cells on your lips, while its moisturizing properties helps hydrate it and give it an instant lift.

**Cosmetological Importance Of Cucumber Peels**

Do not discard cucumber peel it has many health benefits. The benefits include its beneficial effects in eye disorders, vitamin A& C deficiency, constipation and bones and muscles disorder. Cucumber peels are rich in fiber and contain minerals like magnesium, potassium, and silica. The silica is an essential component to keep your muscles, bones, and tendons healthy. It also hydrates our skin, improves complexion and vision.

**Beneficial for the skin:**

Cucumber peels helps in revitalizing the skin from within. Regular application of cucumberbased face packs or grated cucumber appears to be effective in reducing the signs of skin aging. It is also good for your dark circles, open pores, blemishes, etc.

**Reverses Skin Tanning**

Cucumber has a mild bleaching property that can help you get rid of skin tan. Just grate the cucumber and apply the juice on your face and you're all set to face harsh UV rays.

**Cools You Off**

Due to its cooling qualities, cucumber has tendency to calm and refresh you in this pricking heat. Just put water and some peels in an infuser and you're all set to beat the heat.

**II. MATERIAL AND METHODS**

**Plant materials:** The proposed study of Aloe vera, Strawberry,. Cucumber peel Collected from the local area.

**Preparation of Extract:** Air dried and coarsely powdered of Aloe vera, strawberry and cucumber peel. Were placed in Soxhlet separately, using petroleum ether and then successively with Ethanol. The extract was then concentrated to dryness under reduced pressure and controlled Temperature, and they were preserved in a Refrigerator.

**Cream Formulation:**

Beeswax, propylene glycol was taken in first beaker. Then heat on a water bath for uniform mixing. After few minutes oil phase was formed. Aloe vera extract and Amla extract, cucumber peel extract, Distilled water, white soft paraffin and

glycerine, , zinc oxide , Sodium benzoate was taken in second beaker. Mixing all the ingredients by heating on a water bath, the aqueous phase was formed. Oil phase was added into aqueous phase and continuous stirring was done until semisolid mass was formed.

Table no.1

Sr. no.	Ingredients	Quantity
1	Aloe vera	1.6 gm
2	Strawberry	1gm
3	Cucumber peel	0.8gm
4	Bees wax	3.2gm
5	White soft paraffine	9ml
6	Methyl paraben	0.3ml
7	Distilled water	q.s.
8	Menthol	0.2ml
9	Glycerine	1ml
10	Propylene glycol	1ml
11	Zinc oxide	0.7gm
12	Sodium benzoate	0.1gm

### EVALUATION OF CREAM

Evaluation of herbal cream was following.

#### Physical Evaluation

Formulated herbal creams was further Evaluated by using the following physical parameter physical parameter colour, odour, consistency, and state of the formulation.

**a) Colour:** The colour of the cream was observed by visual examination. The result was shows in table 2.

**b) Odour:** The odour of cream was found to be characteristics.

**c) State:** The state was cream was examined visually. The cream was solid in state result was shows in table 2.

**d) Consistency:** The formulation was examined by rubbing cream on hand manually. The cream having smooth consistency.

**e) 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. Results were shown in table 2.

**f) 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. Spreadability was calculated by the following formula. Result were shows in table 2.

**g) Washability:** formulation was applied on the skin and then ease extends of washing with water was checked. Results were shown in table 2.

**h) Non- irritancy test:** Herbal cream formulation was evaluated for the non-irritancy test. Preparation shown no redness and irritancy. Observation of the state was done for 24 h 28 results was shown in table 2

Table no.2

Sr.no.	Parameter	Results
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1	Color	White green
2	Odor	Characteristics
3	State	Semisolid
4	Consistency	Smooth
5	Ph	6.7
6	Spreadability	7.4
7	Washability	Easy
8	Non-irritency test	Non irritant
9	Viscosity	39015
10	Phase separation	No phase
11	After feel	Emollient

**I) Viscosity-** Viscosity of cream was done by using Brooke field viscometer at the temp of 25 Degree c. using spindle no, 63.at rpm. Results were shown in table 2.

**J) Phase sepration-** The prepared cream was transferred in a suitable wide mouth container. Set aside for storage the oil phase and aqueous phase sepration were visualizing after 24h. Result were shown in table no.2

**K) After feel :** Emoliency slipperiness and amount of residue left after the application of the fixed amount of cream was found to be good. observation shown in table 2

### **III. RESULT**

The present research was the formulation and evaluation of polyherbal cream. The evaluation parameters were coming under results, like the physical evaluation of polyherbal cream, PH of the cream, Spreadability, Washability, non-irritancy test, viscosity and phase separation of the polyherbal pain reliving cream was shown in table 2

### **IV. DISCUSSION**

The present work was the formulation and evaluation of polyherbal cream. This cream formulation was o/w type of emulsion; hence this formulation was easily washed with plane water after application. The prepared formulation was good Spreadability. Viscosity and PH of the cream was good. Cream does not show any type of phase separation during storage. The cream was nongrassy in nature and easily removable after application. The formulation was Nonirritant and not harm to the skin.

### **V. CONCLUSION**

Formulation of cream was done by slab method and further evaluated by various evaluation parameters such as physical properties, PH, Spreadability, Washability, non-irritancy test, viscosity and phase separation of cream and gives good results.

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