

Formulation and Evaluation of Herbal Face Cream

Chandrashekhar B. Badwaik*, Updesh B. Lade, Tikesh Agarwal, Prachi Barsagade, Madhuri Nandgave, Nilam Gaddamwar.

Assistant professor Department of Quality Assurance at Chhatrapati Shivaji College of pharmacy, B pharmacy, Deori, Gondia Maharashtra-441601, India

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ABSTRACT: - Aloe vera, amla 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 Anthraquinone. Which are responsible for the strong laxative effects of aloes. However, total leaf extract may contain Anthraquinone. Aloe vera contains 75 potentially active constituents like Vitamins, Enzymes, Minerals, Sugars, Saponins, Amino acids. Amla contains Amino acid like glutamic acid, proline, and Aspartic acids etc. Protein, Minerals. 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.

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 [1] 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 Anthraquinone. Which are responsible for the strong laxative effects of aloes. However, total leaf

extract may contain Anthraquinone. [2] Aloe vera contains 75 potentially active constituents like Vitamins, Enzymes, Minerals, Sugars, Saponins, Amino acids.[3]Amla, Synonyms- Emblica Officinalis. Family- Euphorbiaceae. Which also known as Indian gooseberry. It contains Vitamin C considered important to slow the ageing radicals. Vitamin C is a Scavenger of free radicals which break them down. And also contain Amino acid like glutamic acid, proline, and Aspartic acids etc. Protein, Minerals.[4,5]Amla having show Antioxidant, Anti-cancer, Antibacterial Activity.[6,7,8,9] 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-pcoumaroyl)glucoside[10]

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.



Fig No.1 Aloe Vera

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 [11,12].

Skin Aging

Aloe vera initiates the synthesis of elastin as well as collagen. These proteins are essential for preventing the aging of the skin [13,14].

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 [15,16]

Freshness

Aloe vera impart the sensation freshness. It helps in increasing distribution of blood therefore providing easier oxygen exchange among the cells, hence giving them nourishment [17]

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 [18].

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 [19,20].

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 [21,22]

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 [23,24].

Cosmetological Importance Of Amla [25]

Well, you must be wondering how gooseberry can be used to your skin. You can consume it with honey or you can also apply it on your skin directly and reap its benefits. If you are finding it hard to consume this sour fruit, then try making juice out of it and consume it. This will do good for your skin. Here are some health benefits of gooseberry for your skin.



Fig No.2 Amla

Anti-Ageing Properties

Consuming gooseberry juice can help your skin age slowly. As you begin to age, you would always want to look younger and that is one particular phase of growing older. However, who does not want to look young? So, simply just make some amla juice and add some honey to it and drink it. This drink has loads of antioxidants in it that can help make your skin look better and beat

ageing cells. Vitamin C is found in amla and this aids in glowing skin. Regularly drinking amla juice will prevent premature ageing, fine lines, dark spots and wrinkles.

Treats Acne

You can also make amla paste and apply it over the affected area of your face and leave it to dry for not more than 15 minutes. This will help in managing the pimples, fine lines and reduce scarring done by acne. It is a natural blood purifier that keeps pimples and the after-effects of acne away. Thus, amla juice gives you flawless skin.

Good Skin Tone

High amounts of collagen contents in your skin help in skin firmness and make your skin appear soft. Regular consumption of amla juice boosts vitamin C levels and helps increase the production of collagen level in your skin. This will make your skin look soft and youthful.

Treats Skin Pigmentation

Applying or drinking Amla juice is said to cleanse your skin and reduced skin pigmentation. All you need to do is to apply some amla juice onto your face and once this dries, make sure that you use a small piece of cotton and wipe it away. Also, keep your eye closed when you are doing this. Doing this on a regular basis will help lighten your skin marks and reduce skin pigmentation.

Removes Dead Skin Cells

Amla juice is said to rejuvenate your skin and add an extra layer of skin brightness that will make your skin outshine itself. How more confident can you get with your skin appearing all bright and vibrant. This adds to some extra boost of your self-confidence. Also, amla juice is an excellent cleanser whether it is applied directly or consumed. This will help remove dead cells and make promote anti-ageing.

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.



Fig No.3 Cucumber Peels

Beneficial for the skin:

Cucumber peels helps in revitalizing the skin from within. Regular application of cucumber-based 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 a 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.[26]

II. MATERIAL AND METHODS

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

Preparation of Extract: Air dried and coarsely powdered of Aloe vera, Amla 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.

| SR,NO | INGREDIENTS | QUNTITY |
|-------|---------------------|---------|
| 1. | Aloe vera | 1,5 gm |
| 2. | Amla | 1gm |
| 3. | cucumber peels | 0.8gm |
| 4. | Bees wax | 3.2gm |
| 5. | White soft paraffin | 9 ml |
| 6. | Methyl paraben | 0.3ml |
| 7. | Distilled water | q.s |
| 8. | Menthol | 0.2ml |
| 9. | Glycerine | 1 ml |
| 10. | Propylene glycol | 1 ml |
| 11. | Zinc oxide | 0,7gm |
| 12. | Sodium benzoate | 0.1gm |

Table no.1 Formula of cream formulation

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.[27]

- 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) **Spredability:** 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 Spredability. Lesser the time taken for sepration of two slides results showed better Spredability. Spredability was calculated by the following formula.[28] Result were shows in table 2.

$$\text{Spredability(S)} = \frac{\text{Weight tide to upper slide (W) x Length of glass slide (L)}}{\text{Time taken to separate slide (T)}}$$

- 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 [29].results was shown in table 2

Table 2: Results of polyherbal cream

| S.NO | Parameter | Results |
|------|-------------|-----------------|
| 1 | Colour | White green |
| 2 | Odour | characteristics |
| 3 | State | Semisolid |
| 4 | Consistency | Smooth |

| | | |
|----|---------------------|---------------------|
| 5 | Ph | 6.7 |
| 6 | Spreadability | 7.4 g.cm/cm |
| 7 | Washability | Easy washable |
| 8 | Non- irritancy test | Non-irritant |
| 9 | Viscosity | 39015 |
| 10 | Phase separation | No phase separation |
| 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 separation- The prepared cream was transferred in a suitable wide mouth container. Set aside for storage the oil phase and aqueous phase separation 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 non-grassy 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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