

Formulation and Evaluation of Fairness Whitening Cream

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Abstract: Herbal cosmetics are the preparations used to enhance each person's look. The cream is made with many crude drugs, such as Almond Oil, Steric Acid, Sesame Oil, Alovera Gel, Turmeric, Rose Water. A number of evaluation criteria are applied to the ingredient selection process, which is based on the various therapeutic qualities of the agent in the cream. The pH, viscosity, spreadability and stability of the prepared base were investigated. The base was found suitable for making cream. In the preparation of the herbal cream, extracts of turmeric, Sesame oil, aloe vera and almond oil were combined with the main ingredient. The herbal cream showed good spreadability, good composition, homogeneity, appearance, pH, ease of removal and no. signs of phase separation. All herbal creams made have been found to be safe for the skin.

Keywords: Almond oil, Sesame oil

I. INTRODUCTION

The demand of cosmeceuticals is rapidly expanding. This expansion is due to the availability of new ingredients, the financial rewards for developing successful products, consumer formulation needs maintenance of quality standard. The quality of a formulation should satisfy the consumer's need in terms of its performance. The plant parts used in cosmetic preparation should demand, and a better understanding of skin physiology. Cosmetics are the products that are created for application on the body for the purpose of cleansing, beautifying or altering appearance and enhancing the beauty. Cosmetics are developed to reduce wrinkles, fight acne and to control oil secretion. For various types of skin ailments formulations like skin protective, sunscreen, antiacne, antiwrinkle and antiaging are designed using varieties materials, either natural or synthetic. The development process for cosmetic have varieties of properties like antioxidant, anti-inflammatory, antiseptic, emollient, anti seborrhatic, antikerolytic activity and antibacterial etc. These herbal products claim to have less side effects, commonly seen with products containing synthetic agents. The market research shows upward trend the herbal trade with the herbal cosmetic industry playing a major role in fueling this worldwide demand for herbals Literature survey revealed that Aloe vera is used as protective agent, soothing the skin. It also act as an anti-microbial agent Literature survey revealed that Aloe vera is used as protective agent, soothing the skin. It also act as an antimicrobial agent Literature survey revealed that Aloe vera is used as protective agent, soothing the skin. It also act as an anti-microbial agent Curcuma longa have anti- inflammatory activity and it is used in different types of cream and ointments. It contains curcuminoids as anti- oxidant, curcumin as bactericide, anti-fungal and anti-inflammatory agent. Hence it is beneficial to normal human keratinocytes

Benefits of fairness cream:

- 1) Shiny black spot.
- 2) Lightens skin.
- 3) Long lasting colour.
- 4) Glowing skin.
- 5) Does not irritate skin.



Face Creams:

- Face Creams are used as cosmetic for softening and cleansing action.
- Emollient are non Cosmetic moisture preparations which come in the form of Creams, Ointment, Lotions and Gels. Emollient help the skin to feel comfortable.
- Emollient action provide a protective film for Patient with conditions such as eczema or psoriasis. Emollient are essential part of skin care.
- Emollient action are used in skin beauty application such as lipsticks, lotions, and other cosmetic products.

USES:

- Cleansing
- Emollient Effect
- Aid in retention of Moistures (W/o Creams)
- Physical/ Chemicals barrier like Sun screen.

II. MATERIALS AND METHODS

The materials used in the present procedure from wild resources for further use. The below are the detail of the plant material study. The detail of the plant material used for the Formulation and evaluation of fairness cream are mentioned below.

1] Aloe vera:

Synonyms:

Aloe, Musabbar, Kumari Biological source:

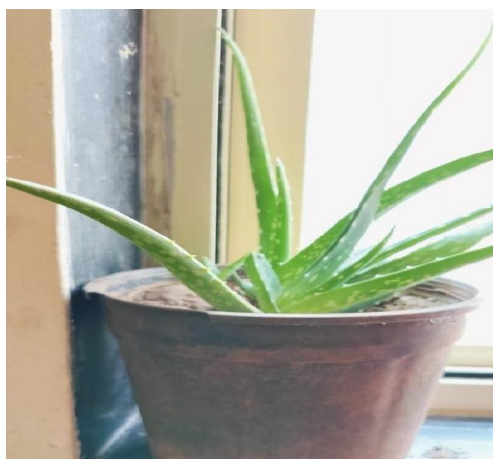
Aloes is the dried juice of the leaves of plants in the Liliaceae family, such as Aloe barbadensis Miller, also known as curacao aloes, Aloe perryi baker, also known as socotrine alove, Aloe ferox Miller, and hybrids of these plants with Aloe africana Miller and Aloe spicata beker, also known as cape aloes.

Geographical source:

Aloes are native to the islands of Socotra, Zanzibar, and Cape Colony in Eastern and Southern Africa. Additionally, Carabbean Island, Europe, and other regions of India, especially the Northen West Himalaya region, cultivate it.

Chemical constituents:

Aloe-emodine , barbaloin, alooesin



Importance of skin:

1. Aloe is used as a cleanser. Its effect is mainly on the large intestine.
2. It has a stronger cleansing effect than all crude drugs containing anthracene glucoside.
3. It is given with carminatives to counteract the combined effect.
4. Aloin is now preferred over aloe, both of which are official.
5. Aloe has many other uses besides its cleansing properties.
6. It is an ingredient of benzoic compound tincture (Friar's Balm Aloe gel formed in the inner parenchyma cells of the leaf is a slightly viscous and clear liquid.
7. Aloe gel also increases the removal of dead tissue due to its allicin content, which stimulates the production of macrophages.

8. Skin aging:

Aloe Vera triggers the synthesis of elastin and collagen. These proteins are important in preventing skin aging

9. Aloe Vera helps remove acne scars by acting as an immune booster and anti-inflammatory agent. Beauty products made with aloe vera can reduce the stiffness of acne.

10. Freshness:

It also consists of chemical ingredients that have the ability to save the skin when acne occurs Freshness Aloe Vera gives a feeling of freshness.

11. softening:

There are so many aloe vera products on the market that you can use after showering to make your skin super soft. Aloe Vera gel, cream or emulsion applied to the face forms a delicious mask that helps protect the skin from dust and other natural elements that are harmful to the skin .

12. Pigmentation :

Melanin is the pigment responsible for the skin color of human skin. Hyperpigmentation is a condition where large amounts of melanin are synthesized. This is usually caused by overexposure of the skin to the sun. In response to the sun's UV rays, skin cells called melanocytes begin to synthesize melanin. This increased synthesis of melanin causes dark spots to form on the skin. Aloe vera has the ability to reduce pigmentation and dark spots on the face

2] Almond oil:

Synonyms:Badam tail, Bitter Almond oil.

Biological Source:

It is a fixed oil obtained by expression of seeds of *Prunus amygdalus* (*Amygdalus communis* and/or *Prunus amygdalus* var. *amara* (bitter almond) or mixture of both belonging to fam Rosaceae containing not less than 0.95% benzaldehyde.

Commercially, bitter almonds are used as source of almond oil.

Geographical Source:

It is native to Persia and Asia Minor.Commercially, almond plants are cultivated and oil is produced on large scale in Medder countries such as Italy, France, Spain and North Africa. In India, it is cultivated in some pa Panjab and Kashmir(8).



Importance of almond oil:

Help digestion :

A digestive aid, almonds are a great source of fiber, says Bonnie Taub-Dix, a Blue Diamond registered dietitian and author of the book *Read It Before You Eat It: Taking You From the Eat It: Taking You from the Eat It. : Taking You by the author of Edelt*. Eating a handful of almonds or drinking a glass of almond milk can move your digestive tract and prevent bloating (here are some more foods that can directly move). Almonds can also promote healthy bacteria in your gut. It can help you digest food and even prevent getting sick. 2.

Moisturizes skin : if you have dry, scaly skin, a lotion or cream containing almonds can be the solution. "Almonds provide healthy fats that help keep your skin supple," says Bonnie. Almonds also support glowing skin by providing vitamins A and E to your body. Make your own almond face oil by filling a small glass bottle. of almond oil and then add up to five drops of an essential oil of your choice. It lasts up to a year.

Protects you from heart disease - Are almonds good for your heart? I bet! Besides giving you glowing skin, the vitamin E in nameless can also help your heart. A study published in the *Journal of Nutrition* concluded that a diet rich in vitamin E is associated with a lower incidence of heart disease. Try eating a handful of almonds instead of making a heart-healthy salad for lunch.

Suppress Cravings : If you ever find yourself reaching for chocolate cake during your afternoon slump, keep sweets on your desk. Their salty crunch can reduce cravings, says Bonnie. And if you have a sweet tooth, make candied nuts right in the slow cooker.

Add shine to dull hair : If the dry winter air has left your hair brittle, use almond oil in your hair products. Its healthy fatty acids help strengthen hair and add texture. When you use hair products with almond oil, the oils are absorbed into the hair, leaving each strand strong and shiny. **Promote healthy cells :** Almonds are full of healthy fats and protein, but are also rich in antioxidants. These plant compounds can protect your cells from oxidation and premature aging. Enjoy a bowl of almonds and berries for an antioxidant-rich snack. Or skip the fruit and decadence with this Almond Bacon Cheese Crostini.

Low Cholesterol - Almonds are the best-lowering foods. Studies show that eating almonds can lower LDL or "bad" cholesterol levels. They're so quick and convenient, so you'll never have to rely on grocery stores for a snack. Throw a packet in your car and have easy snacks on the go.

Reduce the risk of diabetes - start your day with a breakfast cereal sprinkled with almonds. Research shows that eating almonds with cereal slows down the absorption of the carbohydrates in the cereal, says Bonnie.

Low blood pressure - Almonds are high in magnesium, which can help lower blood pressure. Studies show that low levels of magnesium in the blood can contribute to high blood pressure. Adding magnesium-rich foods like almonds can protect you.

Almonds are high in vitamin E - Vitamin E is the fat-soluble sister of antioxidants, helps protect your cells from free radicals. An ounce of almonds, which are very rich in vitamins, is great to eat every day because it can help reduce the risk of cancer, heart disease and the risk of Alzheimer's disease. Almonds are rich in plant-based protein, so you'll be full and satiated all afternoon. According to Bonnie, they are also a healthy source of calcium, vitamin E, phosphorus and many other nutrients. 2 Almonds are antioxidants.

Almonds can help control blood sugar - Almonds are high in fiber, healthy fats and protein, and are low in carbohydrates. They are also high in magnesium, a mineral that is involved in about 300 body processes and helps control blood sugar.

Almonds do wonders for your blood pressure levels - Almonds are high in magnesium which not only helps control blood sugar but also keeps your blood pressure under control. This means, lack of magnesium can put a person at risk of heart attack or kidney failure.

Almonds lower calories - As mentioned earlier, almonds are low in carbohydrates, but they don't compromise on their high protein and fiber. The latter tends to increase the feeling of satiety, which makes you eat fewer calories. So, if you're somebody who loves snacking, a great option is to munch on almonds. They're very good for you, while they will fill you up sooner than you realize, reducing the hunger for other food.



Almonds Are Nutrient-Rich - You heard it right! Native to the Middle East, almonds are wonder seeds of the *Prunus dulcis* (almond tree). What you commonly see in stores are almonds that have their shell removed, revealing the edible and juicy nut inside. They are commonly either sold raw or in a roasted form. They are also used to make almond oil, flour, milk, butter and paste, which is quite commonly known as marzipan. You'll be surprised to know the nutrient profile they contain. They contain moderate amounts of vitamin B2 (riboflavin), copper, and phosphorus. An ounce (28 grams) of almonds contains protein, magnesium, vitamin E, fat, manganese, fiber, and carbohydrates (9).

Sesame oil:
sesame oil.

Biological source:

Pedaliaceae family *Sesamum indicum* It is a fatty oil obtained from
Synonym: Merka oil, Gingelly oil, Benne oil are synonyms of the seeds

Geographical source:

The plant is native to India and is cultivated in the Caribbean, China, Japan, Africa and the United States. Production Method Sesame seeds contain about 50 percent solid oil. Only white-seeded varieties are used for pharmaceutical purposes. The seeds are very small in size. They are cleaned, washed if necessary, sun-dried and pressed to obtain oil at room temperature. After that, the temperature and pressure increase. The oil is purified by the refining method and used (7).



Important of sesame oil:

1. Medicinal Uses Sesame oil has been used as a healing oil for thousands of years
2. As nasal drops that are sniffed back into the sinuses, sesame oil has been used to treat chronic sinusitis
3. Massaging the scalp controls dryness and flaking, which helps prevent hair loss.
4. Regular hot oil massage increases penetration, which improves circulation in the scalp and promotes hair growth
5. Stress is considered a major factor that causes hair loss and sesame oil's cooling properties help relieve stress when massaged into the scalp and neck and shoulders.
6. Rich sesame oil protects the hair from harmful effects.
7. The UV radiation of the sun, which becomes a natural sun protection for the hair.
8. It not only protects the hair from the sun, but also prevents the harmful effects of pollution from sticking to the hair
9. Historically, people used sesame oil for many different purposes, from making massage oil, lotions, nasal drops, enemas is quickly absorbed and penetrates the bone marrow through the tissues keeps the skin elastic and soft (9).

Rosewater:

Rose water Rose water is especially moisturizing when combined with other moisturizing ingredients such as ceramides or glycerin.

"They help hydrate the skin, protect the skin barrier and prevent further water loss from the skin," Allawh says.



However, it should not replace your current moisturizer. Rose water has been used as a beauty product for thousands of years, so it's no surprise that it can improve skin and reduce skin redness.

Antibacterial properties can help reduce acne.

Anti-inflammatory properties can reduce skin redness and swelling. Rose water maintains the skin's natural pH balance. Chemically formulated soaps and cleansers disrupt the pH balance of our skin, making it susceptible to bacteria that cause various skin conditions such as rashes and acne. This property helps rose water restore the skin's normal pH level.



Turmeric:

Turmeric (*Curcuma longa*, Zingiberaceae) is best known as a spice used primarily in Asian cuisine, particularly curry, and in prepared mustard. It is also used in some traditional Indian communities as a topical burn treatment. Curcumin (Diferuloylmethane), the key biologically active component of turmeric, has shown great potency against acute inflammation, and has been shown to exhibit significant wound healing and antioxidant properties. The paste of turmeric powder has been used as antiseptic and for skin nourishment. Curcumin the active compound of turmeric, is a polyphenol used in skin care preparations.



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and performance in active people. In addition, a relatively low dose of the complex can provide health benefits for people that do not have diagnosed health conditions. Most of these benefits can be attributed to its antioxidant and anti-inflammatory effects. Ingesting curcumin by itself does not lead to the associated health benefits due to its poor bioavailability, which appears to be primarily due to poor absorption, rapid metabolism, and rapid elimination. There are several components that can increase bioavailability. For example, piperine is the major active component of black pepper and, when combined in a complex with curcumin, has been shown to increase bioavailability by 2000%. Curcumin combined with enhancing agents provides multiple health benefits. The purpose of this review is to provide a brief overview of the plethora of research regarding the health benefits of curcumin (10).

Formulation Table :

Sr.no	Ingredient	Quantity	Use
1	Steric Acid	5.2ml	Lubricating ,emollient
2	Cetyl Alcohol	0.8ml	Moisturising agent
3	Almond oil	3 ml	Hydrate the skin, Brightning the skin
4	Sesame oil	3 ml	Anti tanning agent
5	Turmeric	3 ml	Anti inflammentry , Colouring agent
6	Alo Vera gel	3 ml	Fight skin aging , Moisturizing the skin
7	Glycerol	2 ml	Smoothness
8	Methyl paraben	q. s	Preservative, Antibacterial agent
9	water	q. s	As a vehicle

Method of preparation:

- 1) Heat steric acid and cetyl alcohol in borosilicate glass at 75 degree
- 2) Then maintain this heating temperature (oil phase)
- 3) In another beaker, dissolve the, methylparaben, in distilled water
- 4) heat the beaker to 75 degrees to dissolve the and methylparaben and make a clear solution.
- 5) Then Slowly add this water phase to the heated oil phase.
- 6) Add a small amount of Alo vera gel, turmeric, Almond oil, Seesame oil until a smooth cream is formed and add a few drops of rose water for aroma
- i. Evaluation of Herbal Fairness Cream
- ii. pH of the Cream: The pH meter was calibrated using standard buffer solution. About 0.5g of the cream was weighed and dissolved in 50.0 ml of distilled water and its pH was measured.
- iii. Viscosity: Viscosity of the formulation was determined by Brookfield Viscometer
- iv. Homogeneity: The formulations were tested for the homogeneity by visual appearance and by touch.
- v. Appearance: The appearance of the cream was judged by its color, pearlscence and roughness and graded.
- vi. After feel: Emolliency, slipperiness and amount of residue left after the application of fixed amount of cream was checked.
- vii. Type of Smear: After application of cream, the type of film or smear formed on the skin were checked.
- viii. Removal: The ease of removal of the cream applied was examined by washing the applied part with tap water
- ix. Acid value: Take 10 gm of substance dissolved in accurately weighed, in 50 ml mixture of equal volume of alcohol and solvent ether, the flask was connected to reflux condenser and slowly heated, until sample was dissolved completely, to this 1 ml of phenolphthalein added and titrated with 0.1N NaOH, until faintly pink color appears after shaking for 30 second
- x. Saponification Value: Introduce about 2 gm of substance refluxed with 25 ml of 0.5 N alcoholic KOH for 30 minutes, to this 1 ml of phenolphthalein added and titrated immediately, with 0.5 N HCL.
- xi. Irritancy test: Mark an area (1sq.cm) on the left hand dorsal surface. The cream was applied to the specified area and time was noted. Irritancy, erythema, oedema, was checked if any for regular intervals up to 24 hrs and reported.



xii. Stability testing: Accelerated stability testing of prepared formulations was conducted for 2 most stable formulations at room temperature, studied for 7 days. They were formulation number 4 and 5 at $40 \pm 1^\circ\text{C}$ for 20 days. The formulations were kept both at room and elevated temperature and observed on 0th, 5th, 10th, 15th and 20th day for the following parameters

III. CONCLUSION

From the previous discussion, it can be concluded that by combining aloe vera, turmeric, green tea and amal extracts in different proportions, a multi-purpose effect such as skin whitening, anti-wrinkle, anti-aging and sun protection cream is achieved. because we knew that it is not possible to increase the therapeutic and cosmetic properties of a single plant extract but it may be possible to combine plant extracts to strengthen the extract in this regard. we mix aloe vera, turmeric, Amal green tea extract strengthens and synergizes the cosmetic properties of the finished product compared to individual extracts. Further research is being done to tease out the scientific performance of the chosen dosage form. research shows that the composition of the base cream extract is more stable and this can cause a synergistic effect (2).

IV. RESULT

Fairness creams (also called skin-lightening or brightening creams) aim to reduce hyperpigmentation, even out skin tone, and provide a lighter appearance to the skin.

Here's a general overview of results users may observe with fairness cream formulations, depending on the active ingredients and duration of use

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