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Research Article

Nourishing Nature: Enhancing Skin Care With The Formulation Of Ficus Religiosa Herbal Face Cream

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ABSTRACT

Now a day's herbal medicine has great impact on human health and diseases. Herbal medicine plays important role in overall aspects such as economical and medicinal. Although usage of these herbal medicines is increased day by day because of their quality, efficacy and safety. The present research study explores new formulation containing extracts of Ficus religiosa, berries in the form of cream (O/W). The formulation was characterized by determining the pharmaceutical characteristics such as pH, appearance, viscosity, spreadability, etc. The cream formulation was designed by using excipients such as cetyl alcohol, stearic acid, methyl paraben, propyl paraben, triethanolamine. As compared to allopathic medicines herbal medication is considered as safer. Whereas allopathic medications are associated with some side effects. Whereas cream formulation is much better as compared to other formulations for absorption and penetration of active moiety topically.

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 is 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. The herbal face cream is specially designed for your face. It cleans deep down to the skin cleaning pores, removing all the impurities like dust, breakdown, sweat and even makeup previously applied to the skin. Herbal face cream is skin enhances complexion and leaving skin smooth and soft. cleanser can be used as a part of a skin care regimen together with a toner and moisturizer.

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Herbal Cream:

Cream are the semisolid dosage forms and topical application to the skin, placed on the surface of eye, or used nasally, vaginally or rectally for therapeutic or protective action of cosmetic function. These preparations are used for the localized effects produced at the site of their application by drug penetration in to the underlying layer of skin or mucous membrane. These products are designed to deliver drug into the skin in treating dermal disorders, with the skin as the target organ Creams are semi-solid emulsions of oil and water. They are divided into two types: oil-in-water (O/W) creams which are composed of small droplets of oil dispersed in a continuous phase, and Water-in-oil (W/O) creams which are composed of small droplets of water dispersed in a continuous oily phase. Oil-in-water

creams are more comfortable and cosmetically acceptable as they are less greasy and more easily washed off using water. Water-in-oil creams are also more Moisturizing as they provide an oily barrier which reduces water loss from the stratum corneum, the outermost layer of the skin.

Importance of Ingredients

Cosmetological importance of crane berry-:

Crane berries are a native North American fruit. Crane berries are potent sources of antioxidant.

- Crane berries help firm and tighten the skin.
- The presence of omega 3 and 6 can also help fight off eczema symptoms.
- The vitamins and antioxidant found in crane berry seed oil can contribute to a brighter and more even complexion.



Fig-1 Crane berry

Cosmetological importance of black currant: Black currant (*Ribe nigrum*) is a shrub that grows about 1-2 meter tall. Black currant contains a chemical called gamma linolenic acid.

- It prevents skin aging and wrinkles.
- Black currant is also used as antioxidant effect.



Fig- 2 Black currant

Cosmetological importance of black resins: Black resins are a nutrient dense food packed with essential vitamins, minerals, and antioxidant. They are particularly rich in natural sugars, primarily glucose and fructose, providing quick energy .and black resins also contain fibre, potassium, magnesium, and vitamin c.

- Black resins hydrate and nourish the skin.

- It provides the smooth and clear texture to the skin.
- The vitamin c found in black resin seeds can help in brighten the skin, even out skin tone, reduce appearance of dark spots and hyperpigmentation.



Fig 3 Black resin

Cosmetological importance of diced dried mango- : They are fresh handpicked mangoes that are evenly cut. It has a sharp and sour taste. It is an excellent source of vitamin B and C and other benefits.

Uses:-

- It deeply moisturizes the skins and offer the glow it needs.
- It boasts cell repair and treats and prevent skin damage.
- It improves skin health.
- it enhances mental health.



Fig 4 Dried mango

Cosmetological importance of dried strawberry-: They are a healthy and delicious fruit that offers many healthy and benefits, such as vitamin C, antioxidants, fiber and low calorie content.

Uses:-

- It can be mixed into scrubs to remove dead and skin cells and promote smooth skin.

- It can be combined with other in ingredients to create face mask that provide antioxidants and vitamins, which help rejuvenate the skin.
- The antioxidant in it helps fight free radical, reducing signs of aging like wrinkles and fine lines.



Fig:5 Dried strawberry

Cosmetological importance of dried kiwi-:

It refers to kiwi fruit that has been dehydrated to remove most of its water content. Thies process concentrates the fruit's natural sugars, resulting in a chewy, sweet, and tangy snack.

Uses:-

- It reverse skin inflammation and damaged caused by the sun's uv rays.

- The antioxidant present in kiwi help nourish and protect the skin.
- Skin whitening
- Gentle exfoliation
- Moisturizer the skin
- prevent skin tone



Fig-6 Dried kiwi

Cosmetological importance of goji berry-:

Goji berries, also known as wolfberries, are small red fruits native to Asia. They are renowned for their rich nutritional profile and antioxidant properties. In traditional Chinese medicine, goji berries are believed to promote longevity and vitality.

Uses-:

- It contains anti-aging properties.
- It hydrates and moisturizes skin.
- Brightening and Soothing.
- improves skin elasticity.



Fig-7 Goji berry

Cosmetological importance of Blueberry-:

Blueberries are small, round berries with a deep blue-purple color. They are native to North America and are known for their sweet and slightly tangy flavor. Blueberries are packed with antioxidants, vitamins (like vitamin C and vitamin K), and fiber.

Uses-:

- it provides collagen support.
- it hydrates our skin.
- it helps in skin repair.



Fig 8 Blueberry

Cosmetological importance of Aloe Vera:

Aloe vera is a medicinal plant that grows in hot climates such as California, New Mexico, and the Caribbean. It contains more than 75 active ingredients, including enzymes, amino acids,

vitamins, and minerals, some of which could make it useful for treating disease.

Uses-:

- It is used as moisturizer.
- It is used to prevent development of wrinkles.
- It is used for reducing acne.



Fig: - 9 Aloe Vera

Cosmetological importance of Honey:

Honey, sweet, viscous liquid food, dark golden in colour, produced in the honey sacs of various bees from the nectar of flowers. Flavour and colour are determined by the flowers from which the nectar is gathered. Some of the most commercially

desirable honeys are produced from clover by the domestic honeybee.

Uses:-

- Helps to clear out acne.
- Hydrates the skin without making it oily.
- Honey Relieves Sunburn.



Fig-10 Honey

Cosmetological importance of Rose water:

Rose water is a flavored water made by steeping rose petals in water. It is the hydrosol portion of the distillate of rose petals, a by-product of the production of rose oil for use in perfume.

Uses:

- Rose water is an antibacterial.
- It is used to clean skin.
- Rose water for face and body care can prevent wounds such as burns



Fig-11 Rose Water

Cosmetological importance of methyl paraben:

Methylparaben is an anti-fungal agent often used in a variety of cosmetics and personal-care products. It is also used as a food preservative. Methylparaben is commonly used as a fungicide.

Uses:

- It is used as preservative.
- It is prevent germs growth.
- Methyl paraben used as an antimicrobial preservative in cosmetic products

Cosmetological importance of olive oil:

Olive oil comes from the olive fruits and contains fatty acids in olive oil seem to decrease cholesterol levels and have anti-inflammatory effects. Olive oil is commonly used in food as medicine, people most commonly used in olive oil for heart disease, diabetes, and high blood pressure.

Uses-:

- It is used in anti-inflammatory.
- It is an anti-oxidant.
- Help in redness and irritation, wrinkles.

Cosmetological importance of stearic acid-:

Stearic acid is form of emollient and that is effective in moisturizing and hydrated the skin. It protects the skin by forming a moisture loss and keeps hydrated for longer. It is especially beneficial, for people with dry skin, effectively the skin natural moisture.

Cosmetological importance of cetyl alcohol-:

Cetyl alcohol helps prevent creams from separating into oil and liquid. A chemical that helps to keep liquid and oil together is known as an emulsifier. It may also make a product thicker or increase the product's ability to foam.

Uses-:

- This medication is used as a moisturizer to treat or prevent dry, rough, scaly, itchy skin and minor skin irritations (Rash, skin burns from radiation therapy). Emollients are substances that soften and moisturize the skin and decrease itching.

Cosmetological importance of Ficus religiosa leaf- Active Pharmaceutical Ingredients of face cream:

Ficus religiosa or sacred fig is a species of fig native to the Indian subcontinent and Indochina that belongs to Moraceae, the fig or mulberry

family. It is also known as the bodhi tree, peepul tree, peepal tree, pipala tree or ashvattha tree.

Uses:

- Brown in colour, thick and rough to touch, Peepal tree bark is a powerhouse of vitamin K and the extracts perform a wide range of functions related to skin health.
- The bark extract when applied on dull skin tone for balances the complexion, heals bruises, pigmentation, acne and scars.
- Ficus religiosa is used in traditional medicine for about fifty types of disorders including asthma, diabetes, diarrhea, epilepsy, gastric problems, inflammatory disorders, infectious and sexual disorders.
- The trunk of this tree is used by farmers as a soil leveller. After seed harvesting, the rectangular trunk is connected to tractors and levels the soil.



Fig 12: Ficus Religiosa leaf

Phytochemical constituents:

Preliminary phytochemical screening of F. religiosa barks, showed the presence tannins, saponins, flavonoids, steroids, terpenoids and cardiac glycosides.

Constituents of the leaves:

Leaves yield campesterol, stigmasterol, isofucosterol, α -amyrin, lupeol, tannic acid, arginine, serine, aspartic acid, glycine, threonine, alanine, proline, tryptophan, tryosine, methionine, valine, isoleucine, leucine, nonacosane, n-hentricontanen, hexa-cosanol and n-octacosan

Medicinal Uses:



Peepal is extensively used in ancestral systems of medicine like Ayurveda, Unani and Siddha in the form of various formulations. The entire parts of the *F. religiosa* exhibit a wide spectrum of medicinal importance as an anticancer, antioxidant, antidiabetic, antimicrobial, anticonvulsant, anthelmintic, antiulcer, antiasthmatic, anti-amnesic etc (Makhija et al., 2010). traditionally, *Ficus religiosa* is using as folk medicine to treat asthma, cough, sexual disorders, diarrhea, haematuria, earache and toothache, migraine, eye troubles, gastric problems and scabies. Leaf decoction possesses analgesic attribute for toothache.

MATERIALS AND METHODS

Collection of Plants/ Fruits and other chemical ingredients:

The entire plant of leaves of *Ficus religiosa* was collected from the garden of Lucknow (Near Para Chowki) The fruits berries were purchased from the local fruits market. Aloe Vera leaves were collected from the LMCP botanical garden. Other chemicals were issued from the LMCP central lab. Soon after the collection of plants, berries fruits, were cleaned, dried in shade and crushed to a coarse powder, and stored safely for further use. *Ficus* have been known for their vast number of

species, consisting of more than 800 species in the form of trees, vines, shrubs, epiphytes, and hemiphytes. *Ficus* genera belong to the Moraceae family of Urticales order under the classification of Dicotyledone and Spermatophyte phylum of the Plantae kingdom. There are more than 800 species of *Ficus* that have been discovered. *Ficus* plants are generally known as figs or fig trees. The genus is distributed in various regions across the tropical and sub-tropical areas, mainly in Asia, America, Australia, and Africa.

Preparation of Extracts:

Preparation of *Ficus religiosa* leaf extract:

20 gm of dried portion was poured in 200 ml of methanol. Later it was suspended for 60 min at 60°C. After that it was sorted out by using Whatman no.1 filter paper and filtrate was collected and evaporated to obtain extract.

Preparation of berries extract:

All the berries mixed and grinded to it. The semi solid content of berries weight 25g and mixed in 100 ml water, were extracted by using maceration technique. After maceration content was filtered and evaporated to found concentrated extract of berries for used for the preparation of herbal cream.

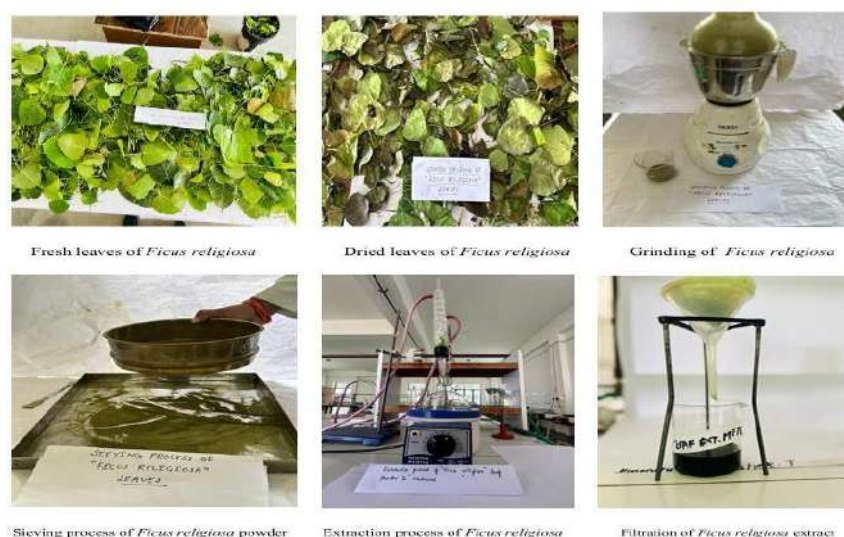


Fig: - 13 Preparation of *Ficus religiosa* Leaves Extract

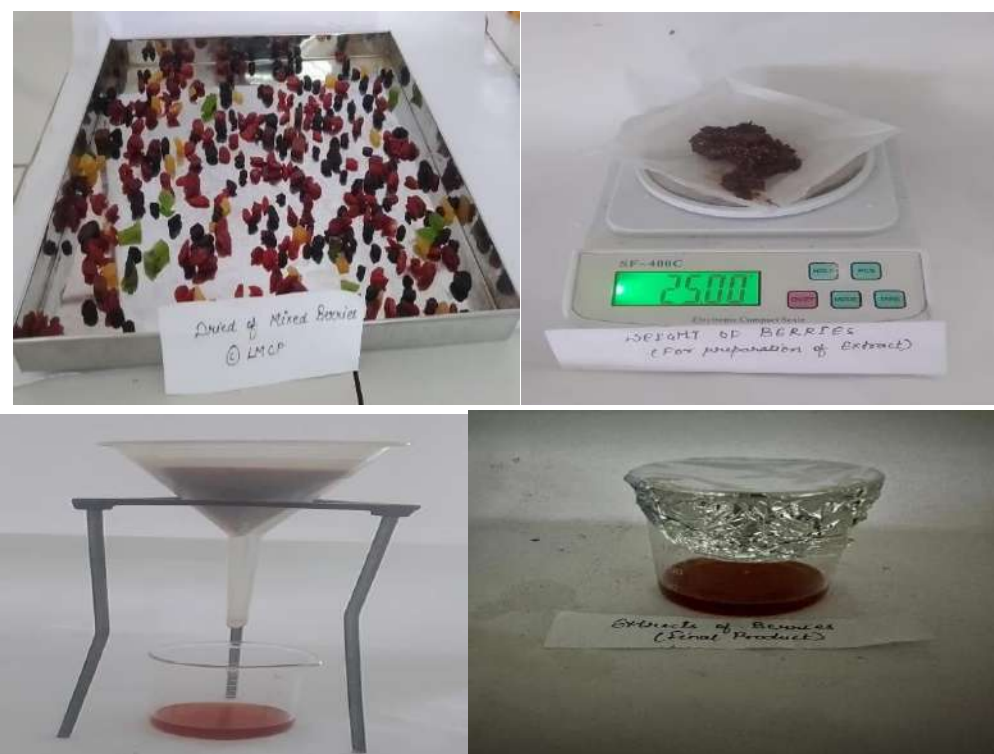


Fig: - 14 Preparation of Berries Extract

Development of Herbal Cream Formulation:

O/W cream- The oil soluble components like stearic acid, cetyl alcohol, olive oil were taken in a china dish and kept on water bath at 75° C. In other beaker rose water, extracts of Ficus religiosa, extracts of berries, aloe vera extract, honey, glycerine, triethanolamine were melted at 75° C.

After heating, oil phase was taken in mortar and pestle and slowly the water phase was added and triturated them till clicking sound was heard. Atlast, when temperature gets cooled down perfume were added with addition of preservatives.

Formulation Of Herbal Cream:

S. No	Name of Ingredients	Quantity
1	Ficus religiosa	2.5ml
2	Aloe vera	15 ml
3	Glycerin	1ml
4	Triethanolamine	1ml
5	Distilled water	q.s
6	Methyl paraben	0.05gm
7	Propyl paraben	0.05gm
8	Stearic acid	7gm
9	Cetyl alcohol	1ml
10	Olive oil	3ml
11	Berry	2.5ml
12	Rose water	q.s
13	Honey	2.5ml
14.	Perfume	q.s



Fig 15: Prepared Herbal Cream

Evaluation Parameters:**Physicochemical characterization of the formulation:****Colour and appearance:**

Colour and appearance were examined by visual examination.

pH:

The pH meter was calibrated using standard buffer solution. About 1 g of cream was weighed and dissolved in 100 ml of distilled water and set aside for 2hrs and then pH was measured.

Spreadability:

The spreadability was determined by placing excess sample (1g) in between two slides which was compressed to uniform thickness by placing a definite weight (50g) for definite time (5 min). The time required to separate the two slides was measured as spreadability. Spreadability was calculated by following formula,▪

$$S = M \times L / T_o$$

Where, S= Spreadability M= Weight tide to the upper slideo L= Length of glass slideo T= Time taken to separate the slide.

Stability studies:

The stability studies were carried out for the prepared herbal formulation at different temperature conditions (4C, 27 C and 37C).

Phase separation:

Formulation were formulated as O/W cream, so as per days passed, we observed if any phase separation was occurred or not.

Greasiness:

When cream was applied, it is checked weather if the smear was oily or greasy like nature.

Irritability:

A small amount of cream applied on skin and kept for few minutes and found to be irritated or non irritataed.

Washability:

A little quantity of cream was applied over the skin and was washed with water and show the result.

RESULT OF EVALUATION

Table 2: Result of Evaluation

S. No	Parameters	Standards	Result
1.	Color	-	Light Brown
2.	Appearance	-	
3.	Consistency	Good	Good
4.	pH	5.7-7.0	7
5.	Spreadability	6.6-8.83 g.cm/sec	7.4g.cm/sec
6.	Washability	-	Easily washable
7.	Stability studies	Stable	Found stable when put on different temp.
8.	Phase Separation	-	No
9.	Greasiness	-	Non- Greasy
10.	Irritability	-	Non- irritable

DISCUSSION

The plant and their parts such as *Ficus religiosa* (leaves), Berries extract was taken for this present study and formulated for cream and their properties. As this cream (O/W) formulation was found to be good with characteristics with respect to such as pH, viscosity, spreadability, etc. A herbal cream, made from berries, honey, aloe vera, olive oil, and glycerin has shown glowing and antiaging effects and is safe to use. This simple, economical, and safe formulation is a valuable alternative to synthetic drugs.

CONCLUSION

From our ancient period, herbal plant parts and crude drugs were directly used as a medicine. But in this project it is formulated with new cream. The plant and their parts such as *Ficus religiosa* (leaves), Berries extract was taken for this present study and formulated for cream and their properties. As this cream (O/W) formulation was found to be good with characteristics with respect to such as pH, viscosity, spreadability, etc. Additionally honey and aloe vera in the formulation were added. As this formulation was successfully prepared with help of cream base which contains Stearic acid, cetyl alcohol, triethanolamine etc. As a preservative methyl paraben and propyl paraben were used. As the *Ficus religiosa* extracts have different properties such as anti-microbial, wound healing, etc which is already proved. As mixture with the berries extracts, develop in new cream formulation in this present which will show this entire properties and can effective and safe. Thus it is concluded that growing demand for herbal formulation in the market is increasing day by day due to it is safe and effective. And one of the reason behind this formulation used natural ingredients, they had no side effect and it make skin healthy and glowing.

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