

Formulation and evaluation of herbal moisturizing cream

Adake Dipali Sanjay

Department of Pharmacognosy, Delonix Society', Baramati College of Pharmacy, Barhanpur, Maharashtra, India

Abstract

Herbal cream are semi solid preparations used for improving the texture, softness, antiwrinkle, anti acne of the face. The main aim of this research work is to prepare the face creams using different herbs and the prepared face cream are evaluated for the efficacy. Neem and Tulsi called as Holy tree and herb has been used since times for the treatment of various skin diseases. In this study Neem leaves (*Azadirachta Indica*), Tulsi leaves (*Ocimum Sanctum*), aloe vera (*Aloe Barbadensis*), Turmeric (*Curcuma Longa*) was incorporated with various ingredients and cream was prepared. Neem leaves and Tulsi leaves collected. Neem and Tulsi leaf were extracted. The extracts were incorporated with various ingredients and excipients and a herbal cream was formulated. the cream was evaluated for various evaluation parameters which include pH, viscosity, spreadability washability, phase separation and various organoleptic properties such as colour, odour, etc. the formulation showed good spread ability, no phase separation and good consistency

Methods: the slab method was used the preparation of cream.

Keywords: azadirachta indica, ocimum sanctum, curcuma longa, aloe barbadensis, herbal cosmetic, moisturizing cream

Introduction

creams are semisolid dosage forms containing more than 20% water or volatile components and typically less than 50% hydrocarbons, waxes or polyols as vehicles. They may also contain one or more drug substances dissolved or dispersed in a suitable cream base.

A cream is a preparation used for the application to the skin. creams are also applied to the mucus membrane such as vagina and rectum Creams maybe considered as pharmaceutical products and cosmetics used in variety of skin conditions. creams are semi solid preparation of oil and water.

- O/W
- W/O

O/W creams which are composed of small droplets of oil dispersed in continuous water phase. O/W type are more comfortable and more acceptable cosmetically they are less greasy, easily washed off using water.

W/O creams which are composed of small droplets of water dispersed in continuous Oil Phase.

W/O types are more difficult to handle they are also moistening more as they provide oily barrier which reduce water loss from stratum corneum.

Creams are used as for softening and cleansing action. Emollient are non cosmetic moisture preparations which come in form of creams, ointment, Lotions and Gels. Emollient helps 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 applications and other cosmetic products.

Concept of beauty and cosmetics is as ancients mankind and civilization, Indian herbs and its significance are popular worldwide. An herbal cosmetic have growing demand in the world market and is an invaluable get of nature. Herbal formulations always have attracted considerable attention because of their good activity and comparatively lesser or nil side effects with synthetic drugs. Herbal cosmetics are

defined as the beauty products which possess desirable physiological activity such as healing smoothing appearance and enhancing and conditioning properties because of herbal ingredient. Now- a -days the usefulness of herbs in the cosmetically production has been extensively increased in personal care system and there is a great demand for the herbal cosmetics. Cosmetics are the substances intended to be applied to the human body for cleansing beautifying promoting attractiveness and altering the appearance without affecting the body's structure or functions

Materials and methods

Materials

- The plant materials like
- Aloe Vera (*Aloe Barbadensis*)
- Neem (*Azadirachta Indica*)
- Tulsi (Holy basil)
- Turmeric (*Curcuma Longa*)

1. Aloe Vera



Fig 1.1: Aloe Vera leaves

Synonyms: Aloe Barbadensis

Biological source: Dried latex of leaves of Aloe Barbadensis

Family: Asphodelaceae

Molecular weight: 267.279

Health benefits

Aloe Vera contain several compounds which inhibit the growth of certain bacteria that can cause infections in humans. Aloe Vera is known for its antibacterial, antiviral, antiseptic and antioxidant properties. Aloe Vera is commonly known as topical gel used to treat sunburn.

2. Neem



Fig.1.2: Neem leaves

Common name: Neem

Biological Name: Azadirachta Indica

Family: Meliaceae

Chemical constituents: Azadirachtin, Nimbolinin, Nimbin, Nimbidin, gedunin, salanin.

Health benefits

Neem leaf is used for leprosy, eye disorders, bloody nose, intestinal worms, stomach upset, loss of appetite, skin ulcers, diseases of the heart, liver problems. This leaf also used for birth control.

3. Tulsi



Fig 1.3: Tulsi leaves

Synonyms: Holy basil or Tulsi

Biological source: Ocimum Sanctum

Family: Labiatae

Health benefits

Tulsi leaves are used to treat skin problems like acne, blackheads, premature aging. Tulsi is used to treat insect bites. Tulsi is also used to treat heart diseases and fever.

4. Turmeric



Fig 1.4: Turmeric powder

Synonyms: Haldi

Biological source: Curcuma Longa Linn

Family: Zingiberaceae

Health benefits

Turmeric is beneficial in rheumatoid arthritis, chronic anterior uveitis, conjunctivitis, skin cancer, smallpox, chicken pox, wound healing etc.

Methods

Collection of plant materials Neem, Tulsi, aloe vera, turmeric collected from local area.

Table 1: Excipients and herbal ingredients with their roles

| Sr. No | Name of ingredients | Role of ingredients |
|--------|---------------------|-------------------------------------|
| 1 | Bees wax | Flavouring agents |
| 2 | Liquid paraffin | Preservatives |
| 3 | Rose oil | Vehicle |
| 4 | Methyl paraben | Preservatives |
| 5 | Aloe Vera | Antiwrinkle, cleansing, moisturizer |
| 6 | Neem | Antiseptic, astringent, moisturizer |
| 7 | Turmeric | Colouring agent |
| 8 | Tulsi | Antiseptic, nutritive |
| 9 | Water | Vehicle |

Extraction of plant material

Extraction of aloe vera gel

1. Mature healthy and fresh aloe vera leaves were collected and washed with distilled water
2. Then after drying of leaves in hot air oven the outer part of leaf was dissected longitudinally using sterile knife.
3. Then the Aloe Vera gel that is colourless parenchymous tissue was removed using the sterile knife.
4. Then the filtered using Muslin cloth to remove impurities.
5. Then the filtrate or filter product which is clear Aloe Vera gel was used in preparation.

Extraction of neem leaves

1. Neem leaves are collected and washed with distilled water
2. Then triturate this leaves in a mortar and pestle.
3. Triturate the ingredients till you get smooth consistent extract.
4. Then filter this extra using Muslim cloth to remove impurities.
5. Then the filtrate or filter product obtained which is cleared solution or cleared extract of neem leaves was used in preparation.

Extraction of tulsi leaves

1. Tulsi leaves were collected and washed with distilled water.
2. Triturate this extract in mortar and pestle
3. Triturate the ingredients till you get smooth consistent extract.
4. Then filter this extract using Muslin cloth to remove impurities.
5. Then the filtrate or filter product product obtained clear extract of Tulsi Lewis was used in preparation.

Extraction of turmeric powder

1. Firstly wash the turmeric and dry the turmeric.
2. after drying, powder them.
3. after powder the turmeric, use it as extract for formulation of cream.

Formulation of cream

Heat liquid paraffin and bees wax in a borosilicate glass beaker at 75 degree centigrade and maintain that heating temperature. (oil face). In another beaker, dissolve borax, methyl paraben in distilled water and heat this beaker to 75 degree centigrade to Dissolve borax and methyl paraben and to get a clear solution (Aqueous phase). Then slowly at this Aqueous phase to heated oily phase.

Then add a measured amount of Neem extract, Tulsi extract, Aloevera gel and Turmeric powder stir vigorously until it forms a smooth cream. Then add few drops of Rose oil as a frfragrance. Put the cream on a slab and add few drops of distilled water if necessary and mix the cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients prproperly. This method is called as slab technique or extemporaneous method of preparation of cream.

Formulation table**Table 2: Ingredients and quantity**

| Sr.no | Name of ingredients | Quantity |
|-------|---------------------|----------|
| 1 | Tulsi extract | 1.5ml |
| 2 | Neem extract | 1.5ml |
| 3 | Aloe Vera gel | 1.5ml |
| 4 | Turmeric | 0.05ml |
| 5 | Borax | 0.2 gm |
| 6 | Bees wax | 3gm |
| 7 | Liquid paraffin | 10ml |
| 8 | Propyl paraben | 0.01gm |
| 9 | Rose water | q.s |
| 10 | Distilled water | q.s |

Evaluation of Cream**1. Organoleptic evaluation**

The cream this obtained was evaluated for its organoleptic properties like colour, odour, texture, state. The appearance of the cream was judged by its colour and roughness and graded.

2. PH of the cream

About 0.5 g of cream was taken dissolved in 50 ml of distil water and then pH measured.

3. 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 visualising after 24 hour.

4. Wash ability test

Wash ability test was carried out by applying a small amount of cream on the hand and then washing it with tap water.

5. Irritancy test

Mark an area 1 sq.cm on the left hand dorsal surface. The cream was applied to the specified area and time was noted. Irritancy Erythema, Edema waschecked if any for regular intervals up to 24 hours and reported.

6. After feel

Emolliency, slipperiness and amount of residue left after the application of fixed amount of checked.

7. Homogeneity

The formulation were tested for the Homogeneity by visual appearance and by touch

Result and discussion

1. Organoleptic evaluation revealed that all formulations of herbal Neem and Tulsi cream have semi solid in nature, slightly green and smooth appearance and texture.

Table 3

| Sr. No | Evaluation parameters | Result |
|--------|-----------------------|----------------|
| 1 | State | Semisolid |
| 2 | Colour | Slightly green |
| 3 | Odour | Aromatic |
| 4 | Texture | Smooth |
| 5 | Type of emulsion | O/W |

2. Appearance

When formulation were kept for long time, it found that no change in colour of cream.

3. PH

The pH of the cream was found to be in range of 5.9 to 6.9 which is good for skin pH The cream has shown pH near to skin required

4. Homogeneity

The formulations produced uniform distribution of extracts in cream. This was confirmed by visual appearance and by touch.

5. After feel

The amount of residue, Emolliency of the cream and slipperiness was found.

6. Washability

Since the cream is oil in water type it can be easily removed by washing with tap water

7. Phase separation

Prepared cream was kept in a closed container at a temperature of 25 to 100 degree centigrade away from light then phase separation was checked for 24 hour. Any change in phase separation observed. According to results no phase separation was observed in all the three formulations.

Discussion

There is a growing demand for Herbal cosmetics in the world market and they are invaluable gifts of nature. The prepared Neem and Tulsi face creams was oil in water type emulsion, since can be easily washed with plane water that gives better customer compliance. Therefore we tried to make a Neem and Tulsi cream which gives various benefits for healthy skin. The prepared formulation was good homogeneous and pH of the cream was good. Cream does not show any type of separation during storage. The formulation was No irritant and not harm to the skin.

Conclusion

Now a days herbal cosmetics are gaining popularity among customers there is a growing demand for Herbal cosmetics in the world market and they are invaluable gifts of nature. Formulation of cream was done by slab method and further evaluated by various evaluation parameters such as physical properties, pH, wash ability and phase separation of cream and gives a good results.

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