FORMULATION, DEVELOPMENT AND EVALUATION OF HERBAL ANTI-AGEING CREAMS

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ABSTRACT:

Herbal cosmetics are becoming common in the field of beauty, fashion. The present study is to formulate and evaluate the herbal antiaging cream containing natural products such as Aloe Vera, beet root r. Different types of oil in water (O/W) herbal creams are preparing by changing concentrations of ingredients. The evaluations of all formulations were done on different parameters like pH; viscosity, spreadibility, and stability were examined. Formulations should not show any adverse effects. The formulation shows no redness, edema, inflammation, and irritation during irritancy studies. These formulations are safe to use for skin. These studies suggest that the composition of extracts and base of cream are more stable and safer, it may produce synergistic action.

Keywords: Herbal Cream, O/W emulsion, pH, Synergistic action, Beet root, aloe vera gel.

INTRODUCTION

The skin is the body's biggest organ, made of water, protein, fats and minerals. Our skin shields your body from microbes and controls internal heat level. Nerves in the skin assist you with feeling sensations like hot and cold. (1) Our skin, alongside with hair, nails, oil organs and sweat organs, is important for the integumentary framework. "Integumentary" signifies a body's external covering. three layers of tissue make up the skin: Epidermis, the top layer, Dermis, the centre layer, Hypodermis, the base or greasy layer(2). Your epidermis is the top layer of the skin that you can see and contact. Keratin, a protein inside skin cells, makes up the skin cells and, alongside different proteins, remains together to frame this layer. The epidermis: 1) Acts as a defensive barrier Makes new skin, 2) Makes new skin, 3) Protects your body. The dermis makes up 90% of skin's thickness. This centre layer of skin: 1) Has collagen and elastin, 2) Grows hair, 3) Keeps you in contact, 4) Produces sweat, 5) Supplies blood. The base layer of skin, or hypodermis, is the greasy layer. The hypodermis is the 1) Cushions muscles and bone, 2) Has connective tissue, 3) Helps the nerves and veins, 4) Regulates internal heat level. (3)

Skin antiaging

Skin aging is the consequences of continual decaying process because that to the harm to the protein and DNA. (4) skin aging is influence by many factors like uv radiation, tobacco abuse, excess alcohol consumption and environment pollution. (5) skin aging is divided into two type that is chronological aging and photo aging. (6) skin aging is identified by seborrheic keeotosis which is not biomarkers of
photoaging (6) skin of aging is characterized by irregular pigmentation, increasing wrinkles, loss of elasticity, dryness and roughness.(5) The use of natural compounds in skin protection especially topical application of antioxidants indicates their popularity in decreasing the effect of aging on the skin (5). Topical application of antioxidants may be beneficial for protecting the skin against environmental factors. Antioxidant compounds play an important key ingredient in skin caring products such as creams and lotions which have received importance in the present scenario. Antioxidants such as Vitamin E and C, carotenoids, flavonoids(4). the anti-aging cream protect the skin from aging, wrinkles pigmentation, dryness, etc.(6).

HERBAL CREAM

Herbal cream are cosmetic formulated using the various synthetic ingredients to form base in which one or more herbal ingredients are used to provide Cosmetic benefits called herbal cream. (9) herbal creams are beauty products which have various activity like healing, smoothing, appearance enhancing, and conditioning properties because herbal ingredients contain various property like anti-aging, antioxidants, etc.(7) In various cosmetic products used herbs that give much effect than other manufacturers cosmetic. Herbal cosmetics have great demand. Herbal cosmetic are used in personal care routine. (8) Cosmetic substance are used for cleansing, beautifying, promoting apperence and attractiveness without harming the body functions but sometimes using of synthetic cosmetic which contains chemical, synthetic compound, dye which are harmful for human body for using long time and give various skin disease and slide effect. (10) Herbal creams are not harmful and not give any side effects which contains natural ingredients. The natural ingredients used in herbal cream are aloe vera gel, beet root, tulsi, etc.(8) Aloe vera gel us used as moisturizer, to reduce pimples and acne and also used for treatment of wound. Beet root used for anti aging agent and anti inflammatory. Reduce pigmentation. Tulsi is used for add glow to the skin and promote wound healing. The main aim of preparation of herbal cream is which give multipurpose effect like moisturizer, reduce acne, skin irritation, reduce skin disease like wrinkles, rashes, also add glow to skin. (9)

ADVANTAGES OF HERBAL CREAM

Herbal cream are safe, effective in field of beauty and fashion. Herbs are useful for their disease prevention and health promotion properties.
1) Natural products-Herbal cream are natural and safe. They are free from all harmful effects because they contain natural ingredients and synthetic cream are harmful and give side effects because they contain synthetic chemical.
2) suitable for all skin type-Herbal cream are suitable for all skin type like dark skin, fair skin, oily skin, dry skin. An individual with skin of any type can use them and never have to worry about degradatingskinCondition. the cream are sometimes not suitable for skin give rashes, side effects.
3) Budget friendly-Natural herbal cream are not that much expensive because they contain natural products and they are easily available at low cost and other synthetic creams used chemical that chemical are very expensive. Other cream are very expensive.
4) Safe to use- They are hypo-allergenic and tested and proven by dermatologists to be safe to use anytime, anywhere. Since they are made of natural ingredients, people don’t have to worry about getting any skin itchiness or irritation.

METHODOLOGY

CREAM FORMULATION

This cream is formulated by oil in water type of emulsion. In which first, the beetroot powder was pass through the sieve for more fine powder. Then weight the all ingredients properly. All powder ingredients triturate in mortar and pestle separately. Then take bees wax in china dish. Melt the beeswax using water bath. At 60°C to 70°C add aloe vera gel and liquid paraffin then add all powder like zinc oxide, ascorbic acid, methyl paraben, beetroot powder. All ingredients add at hot condition and mix the mixture
continuing. Then triturate the mixture and make the volume with water and glycerine. Stirr continue until mixture was. Viscous and opaque. the formulae for cream is given in table.

### FORMULATION TABLE NO:

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Ingredients</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Beetroot powder</td>
<td>20gm</td>
<td>20gm</td>
<td>20gm</td>
<td>20gm</td>
<td>20gm</td>
<td>Antiaging</td>
</tr>
<tr>
<td>2</td>
<td>Aloe vera Gel</td>
<td>10ml</td>
<td>10ml</td>
<td>5ml</td>
<td>15ml</td>
<td>20ml</td>
<td>Antioxidants</td>
</tr>
<tr>
<td>3</td>
<td>Ascorbic Acid</td>
<td>2ml</td>
<td>2ml</td>
<td>2ml</td>
<td>2ml</td>
<td>2ml</td>
<td>Sun Blocker</td>
</tr>
<tr>
<td>4</td>
<td>Beeswax</td>
<td>5gm</td>
<td>2</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>Base</td>
</tr>
<tr>
<td>5</td>
<td>Zinc Oxide</td>
<td>2gm</td>
<td>2gm</td>
<td>2gm</td>
<td>2gm</td>
<td>2gm</td>
<td>Skin whitener</td>
</tr>
<tr>
<td>6</td>
<td>Methyl Paraben</td>
<td>10gm</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>Preservative</td>
</tr>
<tr>
<td>7</td>
<td>Liquid Paraffin</td>
<td>1ml</td>
<td>1ml</td>
<td>1ml</td>
<td>1ml</td>
<td>1ml</td>
<td>Emollient</td>
</tr>
<tr>
<td>8</td>
<td>Glycerin</td>
<td>q.s</td>
<td>q.s</td>
<td>q.s</td>
<td>q.s</td>
<td>q.s</td>
<td>Skin moisturizer</td>
</tr>
<tr>
<td>9</td>
<td>Distilled Water</td>
<td>q.s</td>
<td>q.s</td>
<td>q.s</td>
<td>q.s</td>
<td>q.s</td>
<td>vehicle</td>
</tr>
</tbody>
</table>

### EVALUATION TEST

1) Physical appearance -
In this test, the cream was observed for colour, odour, texture, state.

2) Homogeneity-
In this test, the cream was observed for homogeneity by touch the cream and by appearance.

3) Ph-
In this test, we taken some amount of prepared cream then dissolve the cream in 10 ml of water. Then pH was measured using pH paper.

4) After feel-
In this test, we are apply the some amount of cream on skin of hand and the observed the cream.

5) Removal-
In this test, we taken small amount of cream apply on skin of hand. After some time wash the hand with tap water and observe the removability of cream.

6) Spread ability-
In this test, we taken the two set of glass slide of standard dimensions. the cream formulation place on one slide and other slide is place on the top of the formulation Then a weight or certain load was placed on the
upper slide so that the cream between the two slides was pressed uniformly to form a thin layer. Then the weight was removed and excess of formulation adhering to the slides was scrapped off and then observed the spreadability of cream.

7) Stability-
The purpose of stability testing is to provide evidence on how the quality of drug substance or drug product varies with time under the influence of a variety of environment factors such as temperature, humidity and light and enables to recommended storage condition and to predict the shelf life. Stability for cream was performed at accelerated condition i.e. 40°C ± 2°C.

RESULT AND DISCUSSION

1) PHYSICAL APPERARANCE-
The appearance of cream is smooth and odourless. The color of formulation will be Pinkish, Brownish. Given formulation is O/w emulsion. When formulation is kept for a long time it found that no color change.

![Optimized Formulation]

2) HOMOGENIETY
All formulation produced uniform distribution of extract in cream this was confirmed by visual appearance and by touch.

3) pH
The pH of the cream was found to be in range of 5.6 to 6.8 which is good for skin pH. All the formulations of cream were shown pH nearer to skin required i.e. pH of F1, F2, F3, F4, F5.

4) AFTER FEEL
Emoliency, slipperiness and amount of residue left after the application of fixed amount of cream was found good.

5) REMOVAL
The cream of F1 applied on skin was easily removed by washing with tap water.
6) SPREADABILITY

The formulation easily spread on skin.

![Spreadability Test - Herbal Formulation]

Figure No2: Spreadability of Herbal Formulation

7) STABILITY

The stability of formulation is stable at temperature 40°C ± 2°C. The shelf life of formulation is 6 month. Storage of cream in cool and dry place.

CONCLUSION:

It is concluded that on combining the extracts of aloe Vera and Beet root in different compositions to get multipurpose effect on skin such as whitening, anti-wrinkle, anti-aging, and sunscreen effect in skin. We know that it is not possible to get efficiency effect with single herb but by taking combinations of different extracts can be possible to increase the efficiency of extracts. In this regard, we mixed the extracts of aloe Vera and beet root to improve as well synergizes the cosmetic properties of prepared products compare to individual extracts. These studies suggest that the composition of the extracts and base of F1 is more stable and safer.

REFERENCES:


