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# A Study on the Formulation and Evaluation of Herbal Creams with Anti-Aging Potential

**Vilas Bhausaheb Ghawate[1], Varsha Subhashrao Jadhav[2], Jyoti Gorakh Wagh[3]**

[1]Associate Professor, Department of Pharmacognosy, Mula Education Society's College of Pharmacy, Sonai, Tal. Newasa, Dist. Ahmednagar – 414105, Maharashtra, India.
Email: ghawatevilas@gmail.com

[2]Assistant Professor, Department of Pharmacognosy, Mula Education Society's College of Pharmacy, Sonai, Tal. Newasa, Dist. Ahmednagar – 414105, Maharashtra, India.
Email: varsha2131@gmail.com

[3]Assistant Professor, Department of Pharmaceutical Chemistry, Mula Education Society's College of Pharmacy, Sonai, Tal. Newasa, Dist. Ahmednagar – 414105, Maharashtra, India.
Email: jjyothi2007@gmail.com

**Abstract**

Herbal cosmetics are growing popular in the fashion and beauty industries. The goal of this study is to create and assess a herbal antiaging cream with natural ingredients like beet and aloe vera. Different kinds of oil-in-water (O/W) herbal lotions are made by varying the component concentrations. All formulations were evaluated based on several factors such as pH, stability, spreadibility, and viscosity. There shouldn't be any negative consequences from formulations. During irritancy tests, the formulation exhibits no redness, edema, inflammation, or irritation. You can use these formulas on your skin without risk. According to this research, the base of the cream and the extracts' composition are safer and more stable, and they may have a synergistic effect.

**Keywords:** Aloe Vera Gel, Beet Root, pH, O/W Emulsion, Herbal Cream, And Synergistic Action.

## Introduction:

The largest organ in the body, the skin is composed of minerals, water, protein, and lipids. Your skin regulates your body's internal temperature and protects it from bacteria. Your skin's nerves let you feel things like heat and cold. The integumentary framework depends on our skin, hair, nails, sweat organs, and oil organs. "Integumentary" refers to a body's outer layer; the skin is composed of three layers of tissue: The top layer is called epidermis; the middle layer is called dermis; and the base or oily layer is called hypodermis. The outermost layer of skin that is visible and touchable is called the epidermis. Skin cells are composed of keratin, a protein that stays together with other proteins to form 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

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1. Cushions muscles and bone,
2. Has connective tissue,
3. Helps the nerves and veins,
4. Regulates internal heat level.

**Skin Antiaging:**

Skin aging is a result of the ongoing deterioration process, which damages DNA and proteins. Numerous variables, including UV radiation, tobacco usage, excessive alcohol use, and environmental pollution, can cause skin aging. There are two types of skin aging: photoaging and chronological aging. Seborrheic keratosis, which is not a biomarker of photoaging, is used to identify aging skin. Aging skin is characterized by dryness, roughness, loss of elasticity, wrinkles, and uneven pigmentation. The popularity of natural substances in reducing the effects of aging on the skin is demonstrated by their usage in skin protection, particularly topical application of antioxidants. Antioxidants used topically may help shield the skin from environmental elements. In today's world, antioxidant chemicals are a crucial component of skin care products like lotions and creams. Aantioxidants like flavonoids, carotenoids, and vitamins C and E. The anti-aging cream shields the skin from wrinkles, dryness, pigmentation, and aging.

**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. 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. 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. Cosmetic substance are used for cleansing, beautifying, promoting apperance 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. 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. 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.

**Advantages of Herbal Cream:**

Herbal creams are safe, effective in field of beauty and fashion. Herbs are useful for their disease prevention and health promotion properties.

**1. Natural Products:**

Herbal creams 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 degradating skin Condition the cream are sometimes not suitable for skin give rashes, side effects.

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**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 cream uesd 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 motar 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. Stirre continue until mixture was. Viscous and opaque. The formulae for cream is given in table.

**Formulation Table:**

| Sr. No. | Ingredients | F1 | F2 | F3 | F4 | F5 | Use |
|---|---|---|---|---|---|---|---|
| 1 | Beetroot Powder | 20gm | 20gm | 20gm | 20gm | 20gm | Ant aging |
| 2 | Ascorbic Acid | 2ml | 2ml | 2ml | 2ml | 2ml | Sun Blocker |
| 3 | Aloe vera Gel | 10ml | 10ml | 5ml | 15ml | 20ml | Antioxidants |
| 4 | Zinc Oxide | 2gm | 2gm | 2gm | 2gm | 2gm | Skin Whitener |
| 5 | Beeswax | 5gm | 2gm | 10gm | 15gm | 20gm | Base |
| 6 | Liquid Paraffin | 1ml | 1ml | 1ml | 1ml | 1ml | Emollient |
| 7 | Methyl Paraben | 10gm | 10gm | 10gm | 10gm | 10gm | Preservative |
| 8 | Glycerin | q.s. | q.s. | q.s. | q.s. | q.s. | Skin Moisturizer |
| 9 | Distilled Water | q.s. | q.s. | q.s. | q.s. | q.s. | Vehicle |

**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.

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**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 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 Appearance:**

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 long time it found that no color change.

**2. Homogeneity:**

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.

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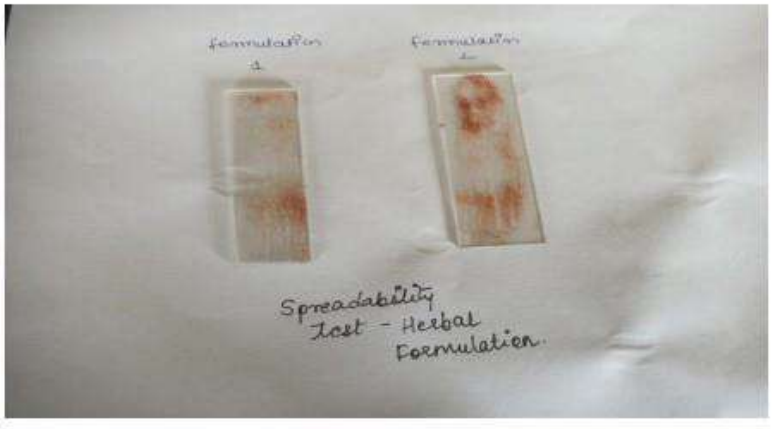



**Figure No. 1: Spread ability of Herbal Formulation**

**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 has been shown that mixing aloe vera and beet root extracts in various compositions can provide skin with a variety of benefits, including sunscreen, anti-aging, anti-wrinkle, and whitening. We are aware that a single herb cannot produce an effective effect, but the efficacy of extracts can be increased by combining various extracts. In order to enhance and enhance the cosmetic qualities of manufactured products in comparison to individual extracts, we combined the extracts of beet and aloe vera. According to these investigations, the base and extract composition of F1 is safer and more stable.

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