“Preparation and Evaluation of Herbal Sunscreen Cream”

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Abstract

Sunscreen is a medication that helps protect you from UV rays caused by
ultraviolet B rays, but ultraviolet A rays can damage the skin. Must stop Solar . Both lines are good.
The aim of this study was to develop a heliotrope extract based on essential oils and some medicinal herbs. Sun exposure reduces the development of actinic keratosis, squamous cell carcinoma, and melanoma. Sunscreen can be organic or inorganic. Sunscreen is also called sunscreen. Products Absorb or reflect the sun's ultraviolet rays and protect the skin.
The increase in skin cancer and the photodamaging effects of ultraviolet radiation have increased the use of sunlight, which has shown a positive effect in reducing symptoms.
Sunscreen must be chemically safe, non-irritating, non-toxic, photo It must be stable and fully protect the skin from sun damage.

Keyword:

herbal Sunscreen, SPF(sun protection factor),skin burn, Asian pigeonwings.

Introduction:
Sunscreen, also called herbal sunblock, is a cream, lotion or other basic product that helps protect the skin from the sun's UV rays and reduces other skin damage
. The sunscreen can be divided into two types of sunscreen.

1) Physical sunscreen

Those that reflect the sunlight.

2) Chemical sunscreen

Those that absorb the uv light

Sunscreen is for external use only. Use sunscreen as photoprotection. Photo
for UV protection. Due to the nature of sunscreen, it protects the treated area when used intensively. Excessive ultraviolet rays are responsible for various types of skin damage such as sunburn, skin pigmentation, premature aging, and photocancer. The main way UV rays cause skin damage is by creating reactive oxygen species (ROS), which interact with and alter protein lipids. UVB and to a lesser extent UVA
are responsible for skin damage.
Sunglasses should contain antioxidants in addition to sun protection to have a good effect on preventing sunlight exposure and skin cancer. Plants are known as good ingredients that can be used in sunscreens to prevent skin damage caused by sun rays due to their antioxidant capacity. Sunscreen is an important product that protects the skin from the harmful effects of the sun.

Classification of sunscreen and the mechanism of photoprotection

The sunscreen, classified as either topical or systemic based according to their route of administration, are divided into two categories according to their protection.

Organic sunscreen

Inorganic sunscreen

Organic sunscreen

Organic sunscreens work by absorbing into the skin and converting UV rays into heat. They are small and ideal for daily use, making it easy to add skincare products.
organic sunscreen produce carbon-based chemicals containing active minerals.

Inorganic Sunscreen
These scatter and reflect UV radiation into the environment and act as a physical barrier against ultraviolet and UV light. It is considered broad spectrum because it covers all ultraviolet radiation. The Inorganic sunscreen also referred to sunblock

Mechanism of photoprotection

Sunscreens used to protect and reduce the harmful effects of the sun's ultraviolet rays have been shown to increase the skin's tolerance to UV exposure after sun exposure. They work in two ways.
Scattering and reflection of UV energy from the skin from mineral-based sunscreens.
In this way, they provide a covering that prevents sunlight from penetrating the skin.
reduces the harmful effects of UV energy by converting it into heat energy and thus reduces the depth at which the sun can penetrate the skin.

Role of ingredients used in formulation

Aloe vera
Aloe vera sunscreen is an essential component of your arsenal. It is proven to treat and protect your skin from burning. in the cosmetic and revitalizing cream protects the skin's balance by blocking UVA and UVB rays. It blocks the sun and increases immunity. Aloe vera gel can be used to help the healing process of sunburn. It helps reduce

pain and redness by reducing inflammation. The gel also stimulates collagen production, which help the healing process.

Butterfly pea flower:

Packed with antioxidant

Butterfly pea flower contain many antioxidant such as flavonoids authocyanin and polyphenols.your skin need antioxidant to improve general health and elasticity.antioxidant help to minimize fine line and improve your skin and appearance.

Soothes minor skin irritation

Butterfly pea flower it helped calm itching and general irritation.The butterfly pea flower used for use in rejuvenating the skin.

Reduce redness

Because of butterfly pea flowers ability to soothe irritated skin,it also minimize redness caused by acne.dryness,and general irritation.these nourishing properties are further enhanced when combined with other nutrients that benefit skin health.

Improve moisture retention

This helps increase skin turnover to naturally restore itself .moisture retention helps stop dryness and promote lipid balance.

Improve the skin barrier

Because butterfly pea flower contain plant based antioxidants and antioxidants vitamin such as vitamins ,it help imrove skin barrier

Suitable for all skin type

Butterfly pea flower is a hidden skin ncare rockstar. It is gentle enough for use on all skin types

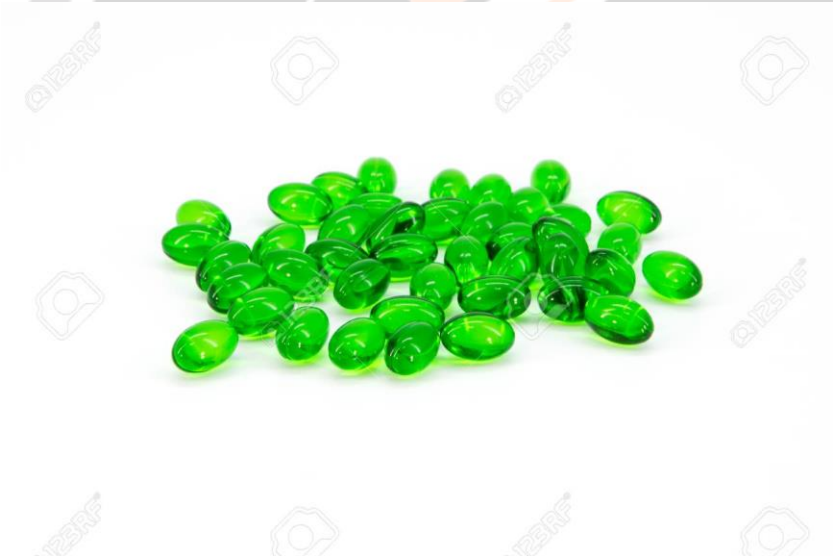
Coconut Oil:
Coconut oil keeps the skin soft and supple and prevents premature aging.
Coconut oil is used as a moisturizer on the skin, cleans dead skin cells, , and also provides protection against the

harmful damage of free radicals with its antibacterial, antifungal and antiviral properties in people with problems such as eczema. skin
. coconut oil has anti-inflammatory properties that reduce skin redness. This can help dry and oily skin conditions by reducing skin irritation.

Rose Water
Rose water contains vitamin B. It is widely used in sunscreens and sunscreen products. It helps increase the effectiveness of SPF. Rose water can be used to lighten skin pigmentation. Rose water can clean the oil and dirt from your skin by opening the pores. It helps maintain the pH level of your skin at . Moisturizes, nourishes and protects skin from environmental damage %, Gulabjal has antioxidant levels that fight free radicals and protect the skin. The skin is healthy and
balanced.

Vitamin E Capsule

Vitamin E it provides extra protection against acute UVB damage and protect against cell mutation caused by sun and pollution exposure.vitamin E it help cleanse your skin and removing the impurities from and help improve skin elasticity .vitamin E combination with lemon juice it help to whiten the skin.it is most commonly known for its benefits of skin health and



appearance.it has antioxidant and anti-inflammatory properties.

Formulation of Sunscreen Cream :

Formulation Butterfly Pea Flower extract :
To make butterfly pea flower extract for sunscreen, place about ten or
dried flower petals in a cup of boiling water. After 15 minutes, add water and discard leaves
. The azure water is now ready to be used as sunscreen.

Butterfly pea flower contain

Soluble minarals.	8.94mg
Ash.	0.9mg
Crude protein.	41.27mg
Soluble carbohydrates.	29.18mg

Formulation of sunscreen cream was prepared by following procedure -

I have to take butterfly pea flower extract.then I have take aloe vera gel because it has proven to both treat and prevent burns on skin. Then added rose water in mixture rose water provide cooling effect.then gradually add coconut oil and vitamin E.all the ingredients were mixed vigorously using spatula for about 20-30min and placed .

List of ingredients used in formulation

Aloe Vera	5mg
Rose water	2ml
Coconut oil	2ml
Buterfpea flower extract	4mg
Vitamn E	2mg

Final products:

Evaluation of sunscreen cream for sunscreening activity

Effectiveness of sunscreen:

The effectiveness ofsunscreen is usually expreesed by sunscreen protection factor (SPF) ,which is the ratio of uv energy required to produce a minimal erthemal dose in protected skin to unprotected skin .A simple ,rapid and reliable in vitro method of calculating the spf is to screen the absorbance of the product between 290-320nm at every5nm intervals .SPF can be calculated by applying the following formula known as Mansur equation.

• SPF spectrophotometric=CF×€EF(wavelength)×I(wavelength)×Abs(wavelength)

Where CF=correction factor (10),EE=erythmogenic effect of radiation with wavelength,Abs=spectrophotometric absorbance values at wavelength.

The value of EE×I constants.

PH of the cream :

The pH meter was calibrated using a standard buffer solution. 0.5 of the cream weighed and was dissolved in 50.0 ml of distilled water and its pH was measured.

• **Homogenesity**:
parameters were tested for homogeneity, vision and touch.

Appearance:

The appearance of Cream was evaluated and graded for color, pearlescence and hardness.

• **Cleaning**:
Ease of removing used oil was evaluated by washing the part with water.

• **Irritation test:**
The oil was used in a specific area and the time was observed. Irritation, erythema and edema were evaluated and reported at normal intervals for up to 24 hours.

• **After feel:**
The softening, softness and size of the residue remaining after controlling the amount of cream.

Benefits of sunscreen

• Reduce risk of skin cancer

• Protect against sunburn

• Avoid inflammation and redness

• Avoid blotchy skin and hyperpigmentation

• Stop DNA damage

• Prevent the early onset of wrinkles and fine lines

• Lower skin cancer risk

• Shields from harmful UV ras

• Maintain the brightness of your natural complexion

• Maintain the look and texture of your skin

• Delays premature signs of aging

• Reflects UVA and UVB rays

• Works immediately when applied on the skin.

Advantages

• Easily available

• No side effects

• No special equipment needed for preparation

• They are inexpensive

• Ingredients are easily available

• Renewable resources

• Be non toxic and non irritant

• Be neutral

• Be stable to heat

• Easy to manufacture

Disadvantages

• They are difficult to hide taste and odour

• Manufacturing process are time consuming and complicated

• Herbal drug have slow effects as compare to allopathic dosage form it also requires long

term therap

Result

To be effective in protecting against sunburn and other skin damage, the Sunscreen must have multiple routes of penetration, and the distribution and deposition of the cream are important factors affecting its quality. showed no redness, burning or irritation, found none. change in the color of the cream.

Conclusion

The study attempted to develop herbal sunscreen cream using extract of butterfly pea flower

and examined their efficacy for preventing sun burn .

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