

Formulation and Evaluation of Polyherbal Anti-Aging Gel from Clitoria Ternatea and Jasmine Extract.

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Abstract: *The aim of this present study is to prepare and formulate a herbal Anti-aging gel cream. In this study cream were formulated based on the antioxidant potential of herbal extracts and to evaluate the physical characteristics and the efficacy of the cream. The cream was formulated by using natural herbal ingredients like Clitoria Ternatea (Butterfly pea) & Jasmin flower. Extraction of Clitoria Ternatea was carried out by hot water extraction by using distilled water as a solvent. Phytochemical screening all the three extracts shows presence of flavonoids, tannins, alkaloids, and phenols. Formulated cream was evaluated by using different parameters such as pH, Appearance, Spreadability, Washability, Irritancy test, Stability Studies, etc. There is no evidence of phase separation and final formulation do not show rashes or redness, edema on skin. This study was suggest that different composition of all two extracts and base used in the cream are more stable and safe. It can be concluded from present study that herbal cream having an antioxidant activity without any side effect and can be used as a provision to barrier of skin and to avoid skin aging.*

Keywords: Polyherbal Anti-aging cream, Skin aging, Clitoria Ternatea and jasmine Antioxidant

I. INTRODUCTION

A revolutionary skincare solution designed to defy the visible signs of aging. This luxurious cream is formulated with a powerful blend of scientifically backed ingredients, including peptides, vitamins, and antioxidants to target the most common concerns of aging skin.

Say goodbye to fine lines, wrinkles, and age spots and hello to a smoother, brighter, and more youthful complexion. Our anti-aging cream works to:

- Reduce the appearance of fine lines and wrinkles
- Improve skin elasticity and firmness
- Brighten and even out skin tone
- Hydrate and nourish the skin
- Protect against environmental stressors and damage

epidermis, dermis and hypodermis . The first two layers have a thickness of around 0.07-0.12 mm and 1-4 mm respectively . Reticular dermis, lower region of dermis consists of collagen and elastin fibers (0.3 -3 μ m in diameter) .Owing to external and internal causes, collagen fibers and elastic fibers present in dermal tissue of skin are modified or damaged which lead to formation of wrinkles and skin-sagging, because the reduction of elasticity of skin is one of the major causes of the skin-aging .

Clitoria Ternatea reported for antioxidant properties. Hence, the present condition we are interested to formulate an antiaging cream using Clitoria Ternatea and jasmin. It is observed that the process of skin rejuvenation can be stimulated by different plant extracts content in biomarkers that is flavonoids, alkaloids, tannins, triterpenes and other biomolecules. Clitoria ternatea (family: Fabaceae) consist of anthocyanins and the structure of anthocyanins allows anthocyanins to display direct antioxidant activity.

II. MATERIAL

Plants Profile

Butterfly pea flowers

Biological source: Clitoria ternatea, commonly known as butterfly pea, is a perennial herbaceous plant.

Family: Fabaceae

Synonyms: Asian pigeonwings, bluebell vine, blue pea, butterfly pea, cordofan pea or Darwin pea

Vernacular Name: There are around 60 global species belonging to genus Clitoria, which originated from the tropical equatorial Asia, and later was distributed widely in South and Central America, East and West Indies, Africa, Australia⁹. The vernacular name of Clitoria ternateais also known as butterfly pea.

Habitat: It is naturally found in grassland, open woodland, bush, riverine vegetation, and distributed place .

Jasmine flowers:

Biological source: Jasminum officinale, known as the common jasmine or simply jasmine, is a species of flowering plant in the olive. It is native to the Caucasus and parts of Asia, also widely naturalized.

Family: Oleaceae

Synonyms:

Mogorium Juss., Noldeanthus Knobl., Nyctanthos St.-Lag.

White Jasmine , Summer jasmine , True jasmine

Habitat : Jasmines are native to tropical and subtropical regions of Eurasia, Africa, Australasia within Oceania, although only one of the 200 species is native to Europe. Their center of diversity is in South Asia and Southeast Asia.

Useful part : flowers

Uses : It is also widely used in cooking such as jasmine tea and other herbal teas jasmine rice, sorbets and are also used for making perfumes, lotions, shampoos and various other skin and hair products.

Sr. No.	Ingredients	Category	Quantity (w/w)
1	Clitoria ternatea extract	Aqueous Extract	0.5
2	Jasmine extract	Aqueous Extract	0.5
3	Aloevera gel	Moisturiser	4
4	Water	vehicle	q.s
5	Glycerine	Humectant	4
6	VitaminE capsule	Supplement	2
7	Olive oil	Moisturiser	3
8	Propyl paraben	Preservative	0.02

Table: 2 Formulation of cream

PHASE I

It contains Ingredients like olive oil, vitE Capsule are mixed using homogenization and heated up to 75⁰C.

PHASE II

Contains all Water-soluble components Propyl paraben, Glycerine, Aqueous Extract of Clitoria Ternatea and jasmine extract are mixed and heated upto 75⁰C until uniform consistency is formed. Phase I and phase II are mixed together at same temperature to form uniform mix by using mechanical stirrer and smooth cream was formed.

PHASE III

Contains preservatives and all other ingredients are added to semisolid mixture at a temperature of 40⁰C. Stir the mixture by using mechanical stirrer and smooth cream was formed.



Anti-aging Cream (Purple cream)

Evaluation of cream :

The formulated herbal cream was evaluated for parameters like pH, appearance, Spreadability, Removal, Emoligency, Dilution test, texture.

1. **PH:** PH of the Herbal cream was detected using pH strip.
2. **Physical appearances:** The physical appearance of the cream can be observed by its colour, roughness and graded.
3. **Spread ability test:** The spread ability test showed that the formulated cream has good spreadable property.
4. **Homogeneity:** The homogeneity of the formulated cream was judged by the visual appearance and touch. The appearance and touch of the cream were good.
5. **Irritancy test:** The formulated cream shows no redness, irritation and inflammation during studies. The formulated cream is safe to use.
6. **Type of smear:** It was found that the cream produced non-greasy film on the skin surface.
7. **Robustness:** It was found that the cream was easily spreadable and moisturizes the skin surface of human volunteer.
8. **Dilution test:** In this test the emulsion is diluted either with oil or water. If the emulsion is w/o type and it is diluted with oil, it will remain stable as oil is the dispersion medium.
9. **Emoligency:** After observation, it was found that cream not left residue on skin surface after application.
10. **Removal:** The ease of removal of the creams applied was examined by washing the applied part with tap water.

III. RESULTS

The prepared herbal cream using the above-mentioned was evaluated for the following parameters and the results are tabulated

Table: 3 Results of formulation

Sr. No.	Parameters	Observations
1	PH	6 – 6.8
2	Colour	Bluish Purple
3	Dilution test	W/O emulsion
4	Emoligency	Thin layer
5	Removal	Water washable
6	Spreadability	Easy to spread
7	Texture	Smooth
8	Type of smear	Non - greasy

IV. DISCUSSION

Herbal extracts, antioxidants derived from food products, and vitamins are highly promising topical treatments to reduce skin aging, and are well known to improve skin elasticity and to scavenge free radicals from skin cells. Skin aging commonly manifests as an increase in wrinkle formation, looseness, and sagging. These changes are caused by underlying reasons such as biological aging and environmental factors including exposure to the sun.

Moreover, natural skin aging, which leads to reduced elasticity and fine wrinkles, can be exacerbated by exposure to UV light. Wrinkles reflect the structural changes in skin caused by the deterioration of the dermal structure, such as changes in elastin and collagen production, which is regulated by butterfly pea flower. Accordingly, it can be concluded that there is a link between the induction of butterfly pea flower and Jasmine expression by UV exposure and wrinkle formation in the skin. Although further studies with larger sample sizes are necessary, as well as tests to determine the effects of an increased duration of product use, increased duration of follow up, and different doses, this study observed no dermatological adverse effects in any subjects.

V. CONCLUSION

All parameters showed that they are within the limits and since all the ingredients added have many advantages, that the formulated cream showed good consistency and spread ability, Homogeneity, pH, non-greasy and there is no phase separation during study period of research. From the above Study it can be concluded that the purple cold gel cream is safe to use. This gel cream improves skin elasticity and reduce sagging.

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