



Formulation and Evaluation of Herbal Anti-Wrinkle Cream

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ABSTRACT-This abstract presents the formulation and evaluation of herbal Anti-Wrinkle cream. On day by day the human skin is affected in many ways such as early age wrinkles in adults so the demands in herbal products is increased in daily life. In this study, Anti-Wrinkle cream was formulated using a combination of natural extracts known for their anti-aging properties and fine lines. The formulation comprised extracts of Blue butterfly pea, Aloe Vera, coconut oil which were carefully selected for their potential use of erasing wrinkles while being gentle on the skin. The formulated Anti-Wrinkle cream underwent rigorous evaluation to assess its efficacy and safety. The antimicrobial activity of the Anti-Wrinkle cream was evaluated against a panel of common bacteria by using standard methods. The results demonstrated significant inhibition of microbial growth, highlighting the effectiveness of the herbal extracts.

Keywords: Blue butterfly pea, Aloevera, cornflour, coconut oil, vitamin-E, orange oil.

1. INTRODUCTION-

Our skin is a largest organ on our body made up of different component including water, protein, lipid, and minerals. Throughout our life, our skin will change constantly, for better or worse. Our skin regenerate itself approximately every 27 days. So proper skin care is essential to maintain healthy skin.

There are four layer of skin:

1. Stratum corneum:
2. Epidermis:
3. Dermis :
4. Subcutaneous:

Skin is classified according to several factor related to its balance: sebaceous secretion, hydration and sensitivity level. Thus each types of skin will have its own characteristics and require different cares.

Based on characteristic there are five types of healthy skin:

1. Normal skin
2. Dry skin
3. Oily skin
4. Combination skin
5. Sensitive skin

ANTI WRINKLE CREAM:

Skin aging typically involve the development of fine lines and wrinkle, loss of elasticity, rough texture and discoloration. As we age, collagen and elastin break down in the skin, causing it to become looser and more prone to wrinkling.

However, much earlier than this, people can use other product known for their anti-aging properties such as hyaluronic acid , retinol and etc. are all chemical based due to their regular used it may cause cancer of skin. So now a day herbal cream are used for prevent the wrinkle without any harm on skin and it's also give moisturizing and healthy skin due to herbal ingredient in it.

Causes of wrinkle:

- With aging the skin become less elastic and drier and less collagen in deeper tissue.
- Ultraviolet (UV) radiation.
- Smoking and pollution
- Dehydration
- Environment and genetic factor
- Facial expression

2. EXPERIMENTAL METHOD

10 grams of blue butterfly pea flowers are collected and added in 200ml water. The mixture was heated on water bath at 60° C for 1 hour, and then filtered through whatman filter paper to get the particles free extract.

3. METHOD OF FORMULATION

- **Composition of 50gm. formulation of herbal anti-wrinkle cream:**

Sr. no.	Ingredient	Quantity	Action
1	Blue butterfly pea	50ml	Anti – oxidant, anti- wrinkle
2	Aloe Vera	20gm	Anti-irritant
3	Corn flour	20gm	Thickening agent
4	Vitamin-e	2capsule	Moisturizing effect
5	Orange oil	2ml	Fragrance
6	Coconut oil	1ml	Preservative

- **Method of preparation of anti-wrinkle cream:**

1. Take 50ml extraction of blue butterfly flower and place it in double boiler and then add 20gm of corn flour with constant stirring until thick consistency is form.
2. Then take 20gm of aloe Vera gel, 2ml of coconut oil and 2 capsule of vitamin-e and mix them properly and make paste.
3. Now mix the both mixture well in double boiler with constant stirring until smooth paste is form.
4. Then add 2ml of orange oil for fragrance then let it cool.
5. Then cream is ready.

4. EVALUATION OF ANTI WRINKLE CREAM

- **color :**

The colour of the cream is visually analyzed.

- **Viscosity test :**

Viscosity of cream was done by using brooke field viscometer at temperature of 25c at 2.5 RPM

- **Absorption test :**

The cream should be applied over definite area of the skin by rubbing.

- **Spredability test :**

The spreadability was expressed in terms of time in seconds taken by two slides to slip off from the cream, placed in between the slides, under certain load Lesser the time taken for separation of the two slides better the spreadability. Two sets of glass slides of standard dimension were taken. Then one slide of suitable dimension was taken and the cream formulation was placed on that slide. Then other slide was placed 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.

- **Stability test :**

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 environmental factors such as temperature, humidity and light and enables to recommend storage condition and to predict.

The shelf life. Stability study for cream was performed at accelerated condition i.e.25°C.

- **Skin irritation test :**

Mark the area (1 cm²) on left hand dorsal surface. Then the cream was applied to that area and the time was noted.

Then it is checked for irritancy, erythema, and edema if any for an interval up to 24 h and reported.

- **Microbial test :**

Agar well diffusion method

Agar well-diffusion method was followed to determine the antimicrobial activity (Bauer *et al.*, 1966).

Nutrient agar (NA) plates were swabbed (sterile cotton swabs) with fresh broth culture of bacteria.

Wells (6mmdiameter) were made in each of these plates using sterile cork borer. 30µg/ml, 20µg/ml and 10µg/ ml solution of cream was prepared. About 100 µl of different concentrations of sample cream and standard Ciprofloxacin were added sterile micro pipette into the wells and allowed to diffuse at room temperature for 2hrs.

Control experiments comprising inoculums distilled water were set up. The plates were incubated at 37°C for 24 h for bacterial pathogens. The diameter of the inhibition zone (mm) was measured and the activity index was also calculated.

Triplicates were maintained and the experiment was repeated thrice, for each replicates the readings were taken in three different fixed directions and the average values were recorded.

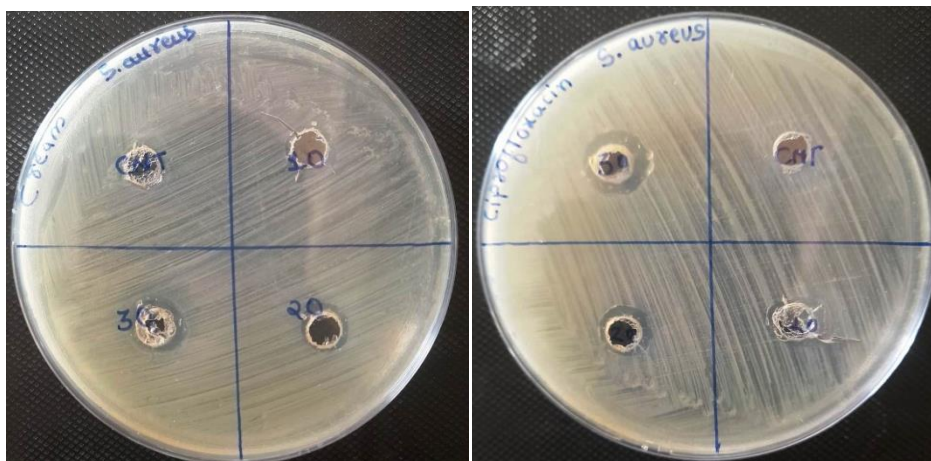
5. RESULT AND DISCUSSION

- Evaluation Parameter :

Sr. no.	Parameter	Result
1	Colour	Space grey
2	Odour	Pleasant
3	Texture	Smooth
4	State	Semi-solid
5	Ph	6

- Anti microbial test :

After incubation, examine the plates for the presence of zones of inhibition, which appear as clear areas around the wells. The zones indicate the anti microbial activity of the cream. The diameter of the zone is calculated.



: Photo plates of In vitro antimicrobial activity of standard and sample against Staphylococcus aureus

Sr . no.	Standard	Microbes	Zone of inhibition		
			10 ug/ml	20ug/ml	30ug/ml
1	Ciprofloxacin	Staphylococcus aureus	10_ 0.47	12+_0.74	14+_05
2	cream		8+_0.5	9+_0	11+_0.57

6. CONCLUSION

The usage of natural cosmetics has been increased to many folds in personal care system and there is a great demand for herbal cosmetics. The use of bioactive ingredients in cosmetics influence biological functions of the skin and provide nutrients necessary for healthy skin. The anti-wrinkle cream slow down the skin aging by regenerating and activating the cells and protect against ultraviolet rays, free radicals etc. As artificial creams give many side effects it's better to use cream prepared by natural ingredients as it does not show any side effect rather is beneficial to skin. The results demonstrated that the formulated anti-aging cream are safe and usable for skin.

Formulation of cream was done by slab method and further evaluated by various evaluation parameters such as physical properties, PH, Spreadability, Washability, non-irritancy test, viscosity of cream and gives good results.

Although a variety of formulations are available in market for anti-wrinkle, still appear to be limited in pace of tissue regeneration. Hence, we have made an attempt to formulate herbal cream containing herbs as well as bioactive, which satisfy almost all the mechanism of anti-aging activity effectively. All the parameters remained unchanged throughout the stability period for three formulations. The APIs selected showed good anti-aging activity. The study was an endeavour to develop anti-wrinkle herbal formulations based on the combination of herbal extract and bioactive.

7. FINAL FORMULATED CREAM



8. ACKNOWLEDGEMENT

We would like to thank Almighty firstly for giving us this opportunity, determination and strength for doing this research. His continues grace and mercy was with us throughout our life and even more during the tenure of our research.

With due reverence, we express to my esteemed supervisor Mr. Vishwakarma Singh Department of Pharmacology, B Pharmacy College, Rampura for his kindness and encouragement on keeping us organised and focused.

Many people, especially our professor and team members itself, have made valuable comment suggestions on this proposal which gave us an inspiration to improve our project. We thank all the people for their help directly and indirectly to complete our project.

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