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Research on Anti-wrinkle Cream

Abhay Wani[1], Anurag Warale[2], Prof. Amol Dighe[3], Dr Sunayana Vikhe[4]

[1,2,3,4]Department of Pharmacy, Pravara Rural College of Pharmacy, Pravaranagar, India

ABSTRACT

Creams were created based on the anti-oxidant potential of herbal extracts and their evaluation in this study. Cymbopogon citratus leaves were shade dried and extracted using the soxhlet method with several solvents, including n-hexane, Benzene, and alcohol, to determine the consistency of various metabolites. Cream is created based on the antioxidant activity of herbal extracts and their evaluation in this study. The creams were made with varied concentrations of ……., ranging from F1 and F2. During stability experiments, the creams had to be stable at 30°C/50% RH and 402°C/755% RH for two months, according to ICH requirements. The real-time stability tests were also carried out for a period of 12 months. It can be concluded that herbal creams with antioxidant properties that have no negative effects can be beneficial.

INTRODUCTION

Aging is the result of a continuous degradation process brought on by cellular DNA and protein damage. The ageing process can be divided into two categories: "sequential skin ageing" and "photo-aging." Both have distinct clinical and historical characteristics. Sequential skin ageing is a universal and predictable process marked by changes in skin function caused by physiological changes. Keratinocytes are unable to generate a viable stratum corneum as they age, and the rate of neutral lipid production slows, resulting in dry pale skin with wrinkles. Photo ageing, on the other hand, is caused by excessive exposure to ultraviolet (UV) rays from the sun. Dry, pale, and shallow skin with fine wrinkles and deep furrows generated by the disorder of epidermal and dermal components linked with elastosis and heliodermatitis characterizes it. Herbs and plants have been proven to be effective as a supplementary medicine tool. (1, 2). Cosmetics are used to protect skin from external and endogenous toxic substances while also enhancing its beauty and attractiveness3. Cosmetics aid in not only the development of a pleasing external look, but also in the achievement of long-term good health by decreasing skin problems. 4. Synthetic or natural substances in skin care formulations that promote skin's health, texture, and integrity, as well as hydrating, maintaining skin's elasticity by reducing type I collagen, and UV protection, among other things. This cosmetic property is attributable to the presence of substances in skin care formulations, which help to reduce the generation of free radicals in the skin and maintain skin properties for a longer period of time. Cosmetic goods are the finest option for reducing skin issues such as hyperpigmentation, ageing, wrinkles, and rough skin texture, among others. Herbal cosmetics are becoming increasingly popular. Daucus carota has the highest levels of -carotene, a vitamin A precursor, and also contains a lot of vitamin C. Vitamin A is also an excellent anti-oxidant, which helps to slow down the ageing process. Collagen, a vital protein for keeping our skin supple, is produced by vitamin C in the body. It also protects the skin from wrinkles. (5, 6)

INGREDIENTS

1. Bees Wax

White beeswax are used as thickeners, emulsifiers, and as stiffening agents in cosmetics. Beeswax absolute is used as a fragrance in soaps and perfumes.

2. Emulsifying Wax

Emulsifying Wax NF can be used to make viscous (thick) or thin emulsions, depending upon the concentration at which it is used.

3. Almond Oil

- Reduces puffiness and under-eye circles
- Improves complexion and skin tone
- Treats dry skin
- Improves acne

4. Lanolin
Lanolin is used as a moisturizer to treat or prevent dry, rough, scaly, itchy skin and minor skin irritations

5. Coconut oil
- Hydrating dry skin, notably that of people suffering with eczema.
- Facilitating wound healing
- Antibacterial and Antifungal Properties

6. Tincture Benzoin
Benzoin is used to protect the skin.

7. Orange Oil
The high concentration of limonene protects your skin from pollution, smoking, and ultraviolet rays. Improves pore appearance: The oil has an astringent action on the skin, which helps constrict pores and regulate sebum production.

8. Cymbopogon Citratus
Cymbopogon citratus also called as lemongrass is a fragrant oil-producing tropical perennial plant. Lemongrass gets its name from the essential oil present in the shoot, which has a lemon-like aroma. Lemongrass is generally utilised as a flavouring agent in a variety of recipes. Lemongrass is used for treating digestive tract spasms, stomachache, high blood pressure, convulsions, pain, vomiting, cough, achy joints (rheumatism), fever, the common cold, and exhaustion and also shows antioxidant and antimicrobial activities.

Table No. 1

Sr. no.	Ingredients	Quantity	Uses
1	Bees Wax	3	Emulsifier
2	Emulsifying Wax	3	Emulsifier
3	Almond Oil	13	Anti-Ageing
4	Lanolin	6.6	Moisturizer
5	Coconut oil	6.6	Moisturizer
6	Tincture Benzoin	2	Anti-irritant
7	Orange Oil	6	Mild astringent
8	Cymbopogon citratus	10	Antioxidant

Method of Formulation

Evaluation Tests

Table No. 2: Organoleptic Properties

S. no.	Specification	Limits
1.	State	Semisolid
2.	Colour	
3.	Odor	
4.	Texture	

Ph of the cream

pH of the cream	5.5

Spreadability

One of the most essential characteristics of semisolids is their spreadability. Spreadability is a phrase used to describe the region across which a cream spreads easily when applied to the skin. A formulation's medicinal efficacy is also influenced by its spreading value. To investigate the spreadability of the formulations, a specific apparatus was created. Spreadability is measured by the time it takes for two slides to separate from the formulation, placed between them, when a given load is

applied. The spreadability improves as the time it takes to separate the two decreases. A total of two standard-sized glass slides were chosen. A total of two standard-sized glass slides were chosen. One of the slides was covered with the formulation whose spreadability had to be determined. The other slide, which was wedged between the two, was placed on top of the formulations. Slides over the surface for a total length of 5 cm. The formulation between the two slides was pressed uniformly to form a thin layer using a 100 g weight placed on the upper slide. The extra formulation stuck to the slides was scraped off, and the weight was eliminated. The formulation was placed on one of the slides, which had been fixed. The second movable slide was placed on top of it, with one end linked to a string that could be loaded using a simple pulley and a pan. The time it took the upper slide to travel 5.0cm and separate from the lower slide was measured using a 30g weight placed on the pan. A 30g weight was placed on the pan, and the time it took for the upper slide to travel 5.0cm and separate from the bottom slide under the weight's direction was recorded.

The spreadability was then determined using the formula below.

$$Spreadability = \frac{m \times l}{t}$$

m = weight tied to the upper slide (30g)
l =length of glass slide (5cm)
t =time taken in seconds

Formulation	Time in seconds	Spredability [g cm/sec]
F1	10	14.31
F2	8	16.19

Homogeneity
The formulations were tested for the homogeneity by visual appearance and by touch.

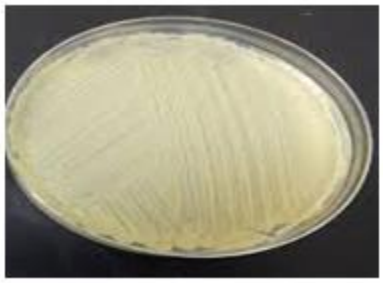
After Feel
Emolliency, slipperiness and amount of residue left after the application of fixed amount of cream was checked.

Removal
The ease of removal of the cream applied was examined by washing the applied part with tap water.

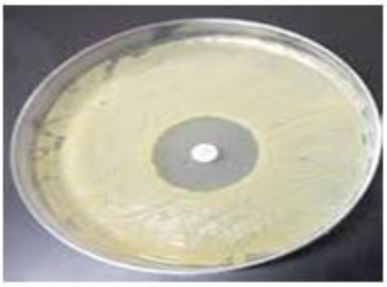
Appearance
When formulation were kept for long time, it found that no change in colour of cream.

Irritancy test
Mark an area (1sq.cm) on the left handdorsal surface. The cream was applied to the specified area and time was noted. Irritancy, erythematic, edema, was checked if any for regular intervals up to 24 hrs and reported.

In Vitro Test
The creams were inoculated on Agar media plates using the cup plate method, and a control was made by eliminating the cream. The plates were kept in the incubator and incubated for 24 hours at 37°C. After the incubation period, the plates were removed and compared to the control to determine microbial growth.



Before Inoculation



After Inoculation

Viscosity

Viscosity of the formulation was determined by Brookfield Viscometer. The viscosity measurements were done using Brookfield DV-II + viscometer using LV-4 spindle. The developed formulation was poured into the adaptor of the viscometer and the angular velocity increased gradually from 0.5 to 20 rpm

CONCLUSION

According to the findings, mixing the extract of Cymbopogon citratus different components in varied ratios resulted in a multipurpose effect on skin, including whitening, anti-wrinkle, antiaging, and sunscreen effects. As we all know, it is impossible to boost the efficacy of a single plant extract by combining different natural components, but it is feasible to increase the efficacy of extracts by mixing different natural components. In this case, we combined lemongrass oil and almond oil extracts to increase and synergize the cosmetic characteristics of manufactured goods when compared to solo extracts. Further research will be conducted to verify the synergistic action of the selected formulation on a scientific level.

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