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Research Article

Formulation and Evaluation of a Poly Herbal Skin Care Lotion

Pooja Soni*, Girish Kumar, Rahul Bhati, Anjali Salvi, Ankur Sharma,

Md. Zeeshan

Department of Pharmaceutics, Shrinathji Institute of Pharmacy, Nathdwara

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Corresponding author: Pooja Soni

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Abstract:

Neem and Tulsi, also known as holy trees and herbs, have been used to cure a variety of skin conditions for centuries. In this study, a poly herbal cream was made using Neem leaves (*Azadirachta indica*) and Tulsi leaves (*Ocimum sanctum*) together with other ingredients. The Tirupati Local Area was used to collect tulsi and neem leaves. Both of these plants underwent a 4-day process of shade drying before being ground into a coarse powder and sent through sieve number 22. For future research, the coarse powder was preserved. Following ethanol extraction in a soxhlet apparatus, pet ether 60-40 was used to defat both neem and tulsi leaves. 100 grammes of plant material were extracted for three hours with 500 ml of ethanol. A rotary evaporator was used to evaporate the extract, and the ethanol extracts that were produced were then conserved for future research in a dessicator. A poly herbal cream was created by mixing the extracts with other components and excipients. Numerous assessment criteria, such as pH, viscosity, spreadability, centrifugation test, spectrophotometric test, accelerated stability studies, and microbial stability, were used to assess the cream. In a stability chamber, the accelerated stability investigations were conducted for 20 days at both room temperature and an enhanced temperature. After centrifugation, stability testing, and no phase separation was observed, the cream was determined to be stable. *E. coli* and yeast growth were used to assess the microbiological stability. The outcomes showed that the cream's microbiological stability contained no microbial growth.

Keywords: *Azadirachta indica*, *Ocimum sanctum*, Evaluation, Poly herbal, Stability

INTRODUCTION

The herbal lotions are the preparations containing phytochemical from a variety of botanical sources, which influence the functions of skin and provide nutrients that is necessary for the healthy skin. Oil in water (o/w) or water in oil (w/o) type semisolid emulsions that are meant for

external application are what are referred to as creams. Cream is categorised as an emulsion of water and oil. It is applied to the skin's surface or outermost layer, and its key property is that it lasts for a long time more time spent at the application site. The purpose of a skin cream is to protect the skin

from various environmental factors, including weather, and to provide calming effects. A number of a variety of creams, including cleaning, foundation, disappearing, and coldnighttime, body and hand creams, and massages. Our work's primary goal isto create a herbal cream with multiple uses, such asmoisturiser, lessen skin illnesses, lessen acne and skin irritationadding conditions include psoriasis, eczema, dry skin, wrinkles, rashes, etc.radiance on the face. Aloe Vera gel, neem, and tulsi are three herbal substances we employed in our formulation. Aloe Vera gel is used to moisturise skin, treat acne and

minimise pimples, among other things. wound care for burn victims. Uses for Neem include antifungal and Additionally used as an anti-inflammatory and to lessen scarring, pigmentation, irritation and redness of the skin. Tulsi is utilised to enhance theskin and to speed up the healing of wounds.

MATERIALS AND METHODS

Collection of plant material

Aloe Vera, Neem, Tulsi leaves were collected from the local botanical garden in sumerpur

Table 1: Role of ingredients

S. No.	Ingredients	Roles
1	Aloe Vera gel	Anti-ageing, anti-inflammatory, moisturizer, reduce acne and
2	Tulsi	pimples.
3	Neem	Antibacterial, adds glow to the face.
4	Bees wax	Promote wound healing, relieves skin dryness, itching and
5	Liquid paraffin	redness.
6	Borax	Emulsifying agent, stabilizer and gives thickness to the cream.
7	Methylparaben	Lubricating agent
8	Rose oil	Alkaline agent which reacts with emulsifying agent to form soap
		Preservative
		Fragrance

Extraction processes

i) Aloe Vera gel

Mature, healthy and fresh aloe Vera leaves were collected and washed with distilled water. Then after proper drying of leaves in hot air oven, the outer part of the leaf was dissected longitudinally using a sterile knife. Then the aloe Vera gel that is the colorless parenchymatous tissue was removed using the sterile knife. Then it is filtered using muslin cloth to remove the fibers and impurities. Then the filtrate or the filter product which is a clear aloe Vera gel was used in the preparation.

ii) Extraction of neem leaves

Neem leaves were collected and washed with distilled water and dried in hot air oven. After proper drying, leaves were powdered. Then 5g Neem leaves powder, 80 to 100 degree Celsius. dimethyl sulfoxide was taken in a volumetric flask and shaken for 3 d on REMI RSB-12 mechanical shaker. Then the solution was heated on a water bath at 80-100 °C andconcentrated up to 20 ml and then filtered using muslin cloth to remove impurities. Then the filtrate or filter product obtained, which is a clear solution or clear extract of Neem leaves, was used in the preparation.

iii) Extraction of tulsi leaves

Tulsi leaves were collected and washed with distilled water and dried in hot air oven. Then after proper drying, the leaves were powdered. Then 1g Tulsi leaf powder+10 ml dimethyl sulfoxide was taken in a volumetric flask and then shaken for 3 d on REMI RSB-12 mechanical shaker. Then the solution was heated on water bath at 80 to 100 degree Celsius. for few minutes and then concentrated up to 5 ml and filtered using a muslin cloth to remove impurities. Then the filtrate or the filter product in which a clear solution or clear extract of Tulsi leaves was used in the preparation.

Formulation of cream

Heat liquid paraffin and beeswax in a borosilicate glass beaker at 75 °C and

maintain that heating temperature. (Oil phase). In another beaker, dissolve borax, methylparaben indistilled water and heat this beaker to 75 °C to dissolve borax and methylparaben and to get a clear solution. (Aqueous phase). Then slowly add this aqueous phase to heated oily phase [7]. Then add a measured amount of aloe Vera gel, Neem extract, and Tulsi extract and stir vigorously until it forms a smooth cream. Then add few drops of rose oil as a fragrance. Put this cream on the slab and add few drops of distilled water if necessary and mix the cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients properly. This method is called as slab technique or extemporaneous method of preparation of cream.



Figure 1:

Table 2: Formulation of cream

S.no.	Ingredients	Formulation F1H	Formulation F2H	Formulation F3H
1	Aloe vera gel	1.5 ml	1 ml	1 ml
2	Neem extract	0.5 ml	0.2 ml	0.4 ml
3	Tulsi extract	1.5 ml	1 ml	1 ml
4	Beeswax	3 gm	3.5 gm	3.2 gm
5	Liquid paraffin	10 ml	15 ml	12 ml
6	Borax	0.2 gm	0.4 gm	0.3 gm
7	Methyl paraben	0.02 gm	0.04 gm	0.03 gm
8	Distilled water	Q.S	Q.S	Q.S
9	Rose oil	Q.S	Q.S	Q.S

RESULTS AND DISCUSSION

Evaluation results of all the 3 formulations are gives below.

Physical evaluation

In this test color, odor, texture and state of the three formulations were checked. Irritancy 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. According to the results all the three formulations that is F1H, F2H and F3H showed no sign of irritancy, erythema and edema.

Washability

Washability test was carried out by applying a small amount of cream on the hand and then washing it with tap water. All three formulations were easily washable.

PH

According to the results, the PH of all the three formulations that is F1H, F2H and F3H were found to be nearer to skin PH so it can be safely used on the skin.

CONCLUSION

By using Aloe Vera gel, Neem and Tulsi the cream showed a multipurpose effect and all these herbal ingredients showed significant different activities. Based on results and discussion, the formulations F1H, F2H and F3H were stable at room temperature and can be safely used on the skin.

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