



Research Article

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MODIFICATION OF MUKHADOOSHIKARI LEPA INTO GEL

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ABSTRACT

Facial expressions are crucial in interpreting emotions on first encounters, and everyone desires an attractive face to fit into society. Youvana Pidika/Mukhadooshika (Acne Vulgaris) is a skin disorder that can significantly impact young people's beauty and confidence. Cosmetology is a science focusing on beautification, with various treatment options, including topical therapies, antimicrobials, hormones, surgery, and UV radiation, each with its limitations. Ayurveda's unique beauty concept, characterized by effective, affordable, and long-lasting treatments, is highly sought after in cosmetology, mainly through shodhana and shamana chikitsa. External applications of Ayurveda's lepa, like Vachadi and Manjisthadi lepa, significantly impact youvana Pidika's features but have disadvantages like patient acceptability, portability, and time consumption. The current research aims to modify the traditional lepa into a gel form for treating youvana pidika/mukhadooshika (Acne Vulgaris). Kashaya was prepared using drugs Usheera, Dhanyaka, Chanaka, Pushkara Mula, Vacha, Lodhra, and Manjishta and modified into the gel using additives like gelling agents. i.e. carbopol and preservatives i.e. parabens. On preliminary analysis, it was observed that the gel has a dark brown colour, 3.78 pH, 20.5% spreadability and 16 total suspended solids. Overall, this research project aims to improve the treatment experience for individuals with youvana pidika/mukhadooshika by developing a modified gel formulation that offers advantages such as lightweight, quick absorbability, non-greasy texture, and hydration.

Keywords: Mukhadooshika, Mukhadooshikari gel, lepa, herbal cosmetics

INTRODUCTION

The face is the first to be seen when meeting others, and people usually read facial expressions to decipher their feelings on the first encounter. Confidence or low self-esteem can easily be observed in the face of those who possess that skill. Hence, people tend to base physical attractiveness on facial beauty. This idea also emanates from the Greek philosopher 'Plato' in the prose: "Beauty lies in the eyes of the beholder.¹ With this thought, it is known that beauty has been based on facial attractiveness for centuries, even more so in today's modern-day society. Everyone desires an attractive face to socialize and fit into society. But one skin disorder puts a damper on this beauty and confidence at a young age. This disorder is known as youvana pidika /mukhadooshika (Acne Vulgaris).

The features of the disease mukhadooshika are similar to those of acne, and it has been considered one of the common skin disorders and diseases of adolescents and occurs in almost all individuals.

The word acne is possibly derived from the Greek 'Akme', meaning the prime of life. It manifests as a physiological derangement during the prime period of adolescence until it gets complicated due to the secondary infection.

The primary area affected is the face (99%) and rarely on the back, shoulder and chest. The incidence of the disease is about 40% of females and 35% of males above the age of 17, resolving

itself within a decade ². Close association is also found in females. If left untreated, 20% of it may give rise to various complications.

Cosmetology is a science dealing with beautification and has certain different principles. Most people use cosmetics not only to cure their skin problems but also in their routine to maintain their appearance and beauty. Present treatment options like topical therapies, antimicrobials, hormones, surgery, UV radiation, etc., have their limitation, so there is an excellent demand for Ayurveda in the field of cosmetology as it has its unique concept of beauty and which is the most effective, cheaper and long-lasting without any side effects.

In Ayurveda, mainly two types of chikitsa (treatment) are described, i.e., shodhana chikitsa (purification treatment) and shamana chikitsa (palliative treatment)³. For shamana chikitsa, many herbo mineral compounds are advocated for internal and external use. As the disease is spread over the face, the external application significantly impacts the features of youvana pidika. The medicine can be powder, paste, oil, ghee, etc. Ayurveda offers treatment in the form of lepa, such as Vachadi lepa and Manjisthadi lepa, but there are disadvantages to using as a lepa, like patient acceptability, portability, time-consuming, etc. So, this current research is undertaken to modify lepa into gel because of the following advantages: lightweight, quickly absorbable, non-greasy and hydrating.⁴⁻⁶

Table 1: Ingredients of mukhadooshihara kashaya

| Ingredients | Latin name | Quantity |
|---------------|------------------------------|-----------|
| Usheera | <i>Vetiveria zizanioides</i> | 230 gm |
| Manjishta | <i>Rubia cordifolia</i> | 230 gm |
| Pushkaramoola | <i>Inula racemosa</i> | 230 gm |
| Lodhra | <i>Symplocos racemosa</i> | 230 gm |
| Dhanyaka | <i>Coriandrum sativum</i> | 230 gm |
| Vata | <i>Ficus benghalensis</i> | 230 gm |
| Masoor | <i>Lens culinaris</i> | 230 gm |
| Vacha | <i>Acorus calamus</i> | 230 gm |
| Water | | 32 liters |

Table 2: Ingredients of Mukhadooshikari Gel

| Ingredients | Proportion |
|-------------------------|------------|
| Mukhadooshikari kashaya | 4 litres |
| Carbopol | 400 gm |
| Propylene glycol | 320 ml |
| Methylparaben | 34 gm |

Preparation of Kashaya



Filtered Kashaya



Mixing of ingredients



Final product



MATERIALS AND METHODS

Method of preparation Mukhadooshikari gel

Collection of raw materials

Raw drugs Usheera, Dhanyaka, Chanaka, Pushkara Mula, Vacha, Lodhra, and Manjishta were procured from the teaching pharmacy of the Department of Rasashastra and Bhaishajya Kalpana, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India. (Table 1, 2)

Preparation of Mukhadooshikari Kashaya

All the ingredients were taken in yavakuta form and were soaked with 10 litres of water for 12 hours; the next day, the remaining 22 litres of water were added and kept for boiling in madhyamagni till 1/8 reduction, and that kashaya was filtered.

Preparation of Mukhadooshikari Gel

Mukhadushikara kashaya was added with the mentioned quantity of carbopol, and the whole mixture was transferred to a grinder and subjected to grinding for ½ hour for uniform mixing. Then, the mentioned quantity of propylene glycol and methylparaben were added, and grinding was continued. After obtaining the suitable gel consistency, 15 drops of essential oil were added.

Analysis of Mukhadooshikari lepa

Organoleptic characters

Organoleptic characters of the text sample were documented through an examination using sense organs.

Physicochemical parameters

Determination of pH

Preparation of buffer solutions: Standard buffer solution: Dissolved one tablet of pH 4, 7 and 9.2 in 100 ml of distilled water. Determination of pH: 1 gm of sample was taken, and 10 ml of distilled water was added, stirred well and filtered. The filtrate was used for the experiment. The instrument was switched on. Thirty minutes were given for the warming pH meter. The pH 4 solution was first introduced, and the pH was adjusted by using the knob to 4.02 for room temperature 30 °C. The pH 7 solution was introduced, and the pH meter was adjusted to 7 by using the knob. Introduced the pH 9.2 solution and checked the pH reading without adjusting the knob. Then, the sample solution was introduced, and the reading was noted. The test was repeated four times, and the average reading was taken.

Spreadability test

The spreadability of the formulated gels was measured by spreading 0.5 gm of the gel on a circle of 2 cm diameter premarked on a glass plate, and then a second glass plate was employed.

Half a kilogram of weight was permitted to rest on the upper glass plate for 5 min. The diameter of the circle after the spreading of the gels was determined. The following equation was used to determine the percent spread:

$$\% \text{ spread by area} = A_2 \div A_1 \times 100$$

Where $A_1 = 2 \text{ cm}$ and $A_2 = \text{final area after spreading}$.

Determination of total suspended solids

The refractometer was checked for accuracy before use. This was done by placing a few drops of distilled water on the prism in the specimen chamber of the refractometer. By looking through the eyepiece with the projection inlet facing towards the light, the point on the scale is noted when the boundary line of the shaded area intersects with the unshaded area. The distilled water reading was zero. The specimen chamber was cleared with tissue paper. A sample drop was placed on the prism to determine the TSS, and the percentage of suspended solids in it was noted.

RESULTS AND DISCUSSION

Table 3: Organoleptic Characters

| Parameters | Observation |
|-------------|-------------------------|
| Colour | Dark brown |
| Odour | Characteristic pleasant |
| Consistency | Semi-solid |

Table 4: Physicochemical Parameters

| Parameters | Results |
|------------------------|---------|
| pH | 3.78 |
| Spreadability | 20.5% |
| Total Suspended Solids | 16 |

The classical formulation (lepa) was modified into gel form. The reference of lepa was taken from Ashtanga Samgraha uttarasthana and treated chemically to form a gel.

Kashaya was prepared classically, and then it was converted into a gel. This new formulation aids in easy application gives a good feel to the skin and attracts people. It was prepared with minimal chemicals without using any preservatives.

Organoleptic and physicochemical analyses were carried out to test the final product. The product is dark brown with a pleasant odour and semi-solid in consistency with a pH of 3.78.

The current research aims to modify the traditional lepa into a gel form for treating youvana pidika/mukhadooshika (Acne Vulgaris). This modification is being done to take advantage of the benefits offered by a gel, such as being lightweight, easily absorbed, non-greasy, and hydrating.

The researchers believe that transforming the lepa into a gel will enhance its effectiveness in treating the skin disorder. Acne vulgaris can significantly impact a young person's beauty and confidence, so finding effective treatments is crucial.

The gel formulation is expected to provide patients with a more convenient and pleasant experience. Being lightweight, it will not feel heavy or uncomfortable on the skin. Its quick absorbability will allow faster penetration into the affected areas, potentially leading to more immediate results. The non-greasy nature of the gel will prevent excessive oiliness and shine on the skin, which is often a concern for individuals with acne. Additionally, the hydrating properties of the gel will help keep the skin moisturized and prevent dryness, which can be a common side effect of acne treatments.⁷⁻⁹

CONCLUSION

The researchers believe that transforming the traditional lepa into a gel form will enhance its effectiveness in treating skin disorders. The gel will also help keep the skin moisturized and prevent dryness, a common side effect of acne treatments. In the current study, lepa was modified into the gel using kashaya as a base and other ingredient like carbopol and parabens. On preliminary analysis, it was observed that the gel has a dark brown colour, 3.78 pH, 20.5% spreadability and 16 total suspended solids. These values can be considered as preliminary standards. Overall, this research project aims to improve the treatment experience for individuals with youvana pidika/mukhadooshika by developing a modified gel formulation that offers advantages such as lightweight, quick absorbability, non-greasy texture, and hydration.

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