IAMJ

INTERNATIONAL AYURVEDIC MEDICAL JOURNAL

Research Article ISSN: 2320-5091 Impact Factor: 6.719

PHARMACEUTICO-ANALYTICAL STUDY OF HERBAL FACE SHEET MASK – A PREEMINENT PREPARATION.

M Spandana Patel[1], Geetha B Markande[2], Subrahmanya Padyana[3]

1 Third-year BAMS, Alva's Ayurveda Medical College and Hospital, Vidyagiri, Moodbidri.
2 Professor, Alva's Ayurveda Medical College and Hospital, Vidyagiri, Moodbidri.
3 Director, AATMA Research Center, Alva's Ayurveda Medical College, and Hospital, Vidyagiri, Moodbidri.

Corresponding Author: drgeetamk@gmail.com

https://doi.org/10.46607/iamj0312042024

(Published Online: April 2024)

Open Access

Article Received: 11/03/2024 - **Peer Reviewed:** 31/03/2024 - **Accepted for Publication:** 12/04/2024.

Check for updates

ABSTRACT

Ayurveda places significant emphasis on the role of Agni in achieving optimal health, including a radiant complexion. Literature of Ayurveda, while enlisting the benefits of Abhyanga and detoxification therapies, focused on the enhancement of the complexion along with optimising the digestive fire. The demand for modernisation encourages us to adopt fewer advancements, keeping the baselines of Ayurveda to cope with time and comfort. Face sheet masks are an advanced preparation that can be used irrespective of time and place. Hence, an effort was made to prepare and analyse a face sheet mask of herbal origin to facilitate a good complexion using *Ventilago maderaspatana* Gaertn (dineshavalli) oil. Analytical and microbial Studies have shown encouraging results.

Keywords: Face serum, mask sheet, Dineshavalli, Analytical and Microbial study.

INTRODUCTION

Beauty favours the self-esteem of the person. Skin is the pointer of health and beauty. In a world where the demand for natural and sustainable beauty solutions is rising, we need a fusion of Ayurveda principles and modern skincare science to unveil a transformative approach to facial rejuvenation. In a fast-paced world filled with synthetic beauty products, herbal serum is a beacon of purity and holistic well-being. In the dy-

namic field of cosmetology, the face sheet mask has emerged as a popular and effective skincare innovation, offering a luxurious and results-driven experience for individuals seeking a boost in their skincare routine.[1]

Nearer to Udupi and South Canara districts, the drug Dineshavalli {*Ventilago maderaspatana* Gaertn.} is familiar with the name '*Kempuberu'*. This drug is widely used by folklore practitioners as a complexion enhancer, especially for newborns. Using nature is the cordwood of traditional practitioners. In the Indian Medicinal Plants textbook, it is mentioned for skin diseases.[2,3] The current research explored the beautifying property of folklore medicine Dineshavalli Ventilago *maderaspatana* Gaertn by developing a face sheet mask made from dineshavalli oil serum.

MATERIALS AND METHODS USED:

Methodology:

Face sheets were prepared after preparing the Dineshavalli Face Serum.

Face serum {with and without preservative}:

- The ingredients of Dineshavalli face serum with their percentage are as mentioned in Table No.1. The crushed roots of dineshavalli were immersed in coconut oil and exposed to the sun for three days. The oil phase was prepared using Dineshavalli taila, Tween 20, and sandalwood oil by mixing with continuous stirring for 10 min. The water phase was prepared by uniformly mixing the aloe vera gel, glycerin, and a small amount of distilled water with constant stirring. The oil phase was combined with the liquid phase dropwise under a magnetic stirrer of 1000/min. To the one batch of prepared Serum, 0.1% preservatives were added.

Table No.1:

SL. No	Ingredients	Standard formula {100Ml}
1.	Aloe vera Gel	50%
2.	Dinesha Valli taila	11%
3.	Glycerine	25%
4.	Sandalwood oil	0.1%
5.	Tween 20	1%
6.	Distilled Water	Q.S in 100 ml
7.	Preservative	0.1%

FACE SHEET MASK PREPARATION:

The prepared face serum was used separately to prepare the face sheet mask. The methodology is the same for both samples. The sterile cotton face sheet masks were taken, and each sheet was dipped in 30 ml of the face serum prepared earlier. It was kept for 30 minutes in the face serum, later taken out and transferred to zip-lock covers with the sample number mentioned.

ANALYTICAL Study

- An analytical study was conducted separately for prepared face serum and face sheet masks.
- The following parameters are used to analyse face serum: Organoleptic evaluation, Physio-chemical test and Microbial Growth determination.
- The following parameters were used to analyse the face sheet mask: Organoleptic evaluation and Irritation test (immediately after the preparation); Microbial Growth determination and Tensile strength were conducted on 0, 15, 30, and 45th day.

Results:

Organoleptic evaluation: The results of the Organoleptic study of face serum and face sheet mask are depicted in Table No. 2.

PARAMETERS	FACE SERUM {with and without preservative}	FACE MASK SHEET with and without preservatives}

COLOUR	Reddish orange	Reddish orange
ODOUR	Pleasant Sandalwood	Pleasant Sandalwood
CONSISTENCY	Lightweight	Face Mask

Table No. 2: Organoleptic study

PHYSIOCHEMUCAL EVALUATION

The results of the physicochemical evaluation of the face serum and face sheet mask are depicted in Table No. 3.

PARAMETERS	**FACE SERUM** {with and without preservative**}**	**FACE SHEET MASK** {with and without preservative**}**
pH	4.67	-
VISCOSITY	0.0435 pascal-second	-
SPREADABILITY	0.1ml – at 1 min -5cm	-
TENSILE STRENGTH	-	1.166 kg– 0^{th} day 1.350 kg – 15^{th} day
Microbial growth	observed on the 15^{th} day	observed on the 15^{th} day
Irritation test	-	No inflammatory changes

Table No. 3: Physiochemical evaluation

Figure 1:

Face serum

Face sheet mask

DISCUSSION

Skin serums used in skincare bring noticeable differences in looks and feelings. However, the face serums should have a pH which doesn't produce irritation or allergic reactions to the applied area. More absorption will likely happen through the skin when the drug is in contact with more significant quantities for longer. Hence, the current study converts face serum into a face sheet mask. As the hectic lifestyle shows the wearing of the skin, the use of the brightening face mask sheet to restore radiance and glow needs attention.

The higher the percentage of natural ingredients, the higher the safety. The current study uses a maximum of Dineshavalli, Aloe vera, and coconut oil. The product is developed by varying the ratios of each ingredient through different trials to get a skin-friendly pH of 4.67.

The root bark of Dineshavalli contains the most essential pigment, ventilagin5, along with other pigments. The root bark is used to colour mordant cotton, wool, and silk, through which reddish shades are obtained. In folk practice, it has been used as a complex enhancer for newborns. This drug is also used for various skin diseases. Hence, dineshavalli was

chosen as a critical ingredient in the study. Coconut oil is a natural skin protector. It moisturises and soothes the skin. Coconut oil is a carrier oil[6]. Aloe vera gel retains the skin moisture and helps regain radiance, supporting the skin's regeneration. Hence, it is taken as a base. Glycerol keeps the skin hydrated. It also provides smoothness and lubrication to the products[7]. The uses of Sandalwood oil vary from aroma therapy to skin lightening. In the present study, its pleasant smell may have a calming effect. Tween 20 here acts as an emulsifier between the water and oil phases. Distilled water acts as a solvent and dissolves the ingredients. It decreases the risk of skin irritation and allergic reactions and retains the product's moisturising capacity.

The reddish orange colour of the product is due to the pigments in the root bark. The lightweight consistency of the serum will potentially penetrate the skin. The natural skin surface pH is below five, [8]and face skincare products should have a pH between 4.6 and 5.5. Thus, the prepared product mimics the skin's natural pH. Viscosity measures the thickness and the density. The higher the viscosity, the thicker the product. The face skin care products should have lower viscosity. Spreadability is about the ability of the face serum to spread over the skin, which should be 5-6cm. The prepared product is 5cm, which falls within the range.

The tensile strength of the face sheet mask is based on brittleness, and it has been maintained in the prepared product throughout the study. A microbial growth examination will determine the contamination of the product. In the present study, it has been observed that both face serum and face mask sheets prepared to add and without adding the preservatives had no microbial growth on the day of preparation. High microbial growth on the 15th day in the face sheet mask without added preservatives will indicate the enhancement of the shelf life of the mask sheet after adding preservatives. Irritation tests will give an idea about the quality and safety of the product. The absence of redness, itching, and other changes will ensure its application.

CONCLUSION

The study intended to furnish the traditional folklore practice with modern techniques. Due to skin-friendly parameters, Dineshavalli and other ingredients support each other in promoting skin health and enhancing complexion. The current study recommends that the prepared product be used without irritation. The addition of the preservative enhances the shelf life.

Acknowledgement

The authors thank Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore, for encouraging them by sanctioning the grant. They are also grateful to the principal, Chief Scientific Officer, ATMA Research Centre and Department of Dravyaguna, Alva's Ayurveda Medical College and Hospital, Vidyagiri, Moodbidri.

REFERENCES

1. https://www.grazia.co.in/beauty/sheet-masks-vs-face–serum
2. Indian Medicinal plants, volume-5, Arya vaidya shala Kottakkal, pg. no.352
3. Khare C P, Indian Medicinal Plants An illustrate dv dictionary, New Delhi, Springer (India Pvt. Ltd) 2007, pg. no-697.
4. https://tropical.theferns.info/viewtropical.php?id=Ventilago+madraspatana dated 6-3-2024.
5. https://www.medicalnewstoday.com/articles/321639dated on 6-3-2024.
6. https://www.cosmeticsinfo.org/ingredient/glycerin/ dated on 6-3-2024.
7. https://pubmed.ncbi.nlm.nih.gov/18489300/ dated on 6-3-2024.
8. https://ijcrt.org/papers/IJCRT2306095.pdf dated on 6-3-2024.

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: M Spandana Patel et al: Pharmaceutico-analytical study of herbal face sheet mask – a preeminent preparation. International Ayurvedic Medical Journal {online} 2024 {cited April 2024} Available from: http://www.iamj.in/posts/images/upload/727_731.pdf

Photographs:

Dineshavalli bhanupaka process with coconut oil

Aloe vera

Serum preparation using a stirrer

viscosity

spread ability

Tensile strength

0^{th} day 15^{th} day

Face mask sheet without preservative

Microbial growth study

0^{th} day 15^{th} day

Face Mask sheet with preservative- microbial growth study

Microbial growth study