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HERBAL COSMECEUTICALS: FORMULATION OF CREAM AND SOAP WITH *VARNYA MAHAKASHAYA*

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ABSTRACT

Introduction: With rising consumer demand for natural and sustainable skincare, Ayurveda offers a time-tested alternative. *Varnya Mahakashaya*, a group of complexion-enhancing herbs described in the *Charaka Samhita*, provides a promising base for modern herbal formulations. **Methods:** Using Ayurvedic principles, a herbal cream and soap were developed with *Varnya* herbs such as *Rakta Chandana*, *Manjishtha*, *Yashtimadhu*, *Durva* etc, The cream was formulated using the Oil-in-Water emulsion method, while the soap was prepared via the Cold Process method. Both products were formulated and evaluated according to Indian Standards. **Results:** The herbal cream exhibited a skin-compatible pH of 5.3. The soap met IS 286 (Part 1):2015 standards, achieving a Grade A rating with 79.6% Total Fatty Matter (TFM). Clinical application on volunteers with fungal infections showed significant improvement, indicating antifungal and therapeutic efficacy. **Discussion:** The successful formulation of these products validate the use of *Varnya Mahakashaya* in modern skincare. The results highlight the potential of integrating classical Ayurvedic knowledge into contemporary cosmetology.

KEYWORDS: *Varnya*, Emulsion, Cold process, Indian Standards (IS).

INTRODUCTION

Ayurvedic herbal creams and soaps have gained global attraction as consumers seek natural alternatives to synthetic skincare products.[1] Rooted in ancient Indian wisdom,[2] Ayurveda aligns with the clean beauty movement by promoting harmony between body, mind, and environment.[3] WHO notes that 80% of the global population uses traditional medicine, encouraging integration with modern practices. Ayurvedic regimens like *Dinacharya*,[4] *Ratricharya*,[4] and *Ritucharya*,[4] highlight inner-outer wellness links.[5] *Varnya Mahakashaya*,[6] *Eladi gana*,[7] and

Lodhradi gana[7] are renowned for skin-enhancing,[8] antifungal, and anti-inflammatory[9] actions, effectively addressing conditions like *Vyanga*[10] while supporting sustainable skincare innovation.

MATERIALS & METHODS

Ushira, Yashtimadhu, Manjishtha, Vidarikanda, Tila Taila, and *Goghrita* were procured from the NIA Pharmacy, while the remaining ingredients—*Rakta Chandana, Padma kesar, Padmaka, Sariva,* and *Durva*—were sourced from a authorised local vendor in Jaipur and authenticated by experts from the Department of Dravyaguna, NIAJaipur. For the preparation of the cream and soap, *Yamaka* and *Kwatha* served as the main active forms and were prepared beforehand.(All ingredients used to prepare cream and soap- Table 1, Figure 1)

YAMAKA PREPARATION

All of the nine drugs were made into a coarse powder and prepared into *Kalka* form, which was further kept aside for some time. Equal quantities of *Taila* and *Ghrita* were heated together after that the prepared *Kalka* was added to the *Sneha*, and the specified quantity of water was incorporated. The mixture was cooked over a medium heat, maintaining a temperature between 70-80°C with continuous stirring, until it exhibited the desired *Sneha Siddhi Lakshana*.[11] The entire process took 54 hours and 36 minutes. (Figure 2a)

KWATHA PREPERATION

All the nine drugs, in the specified quantities, were made into a coarse powder and mixed together and 8 times of RO water(20 litres) was added to the vessel and it was kept overnight for soaking. On the following day, it was heated over a fire and the process continued until the volume of water was reduced to 5 liters. (Figure 2b)

Prepartion of Cream

In the preparation process, the water phase was initiated by adding distilled water, SLS needle, and *Varnya Kwatha* into a clean, heat-resistant vessel. This mixture was further heated to approximately 80–95°C. Simultaneously, the oil phase was prepared in a separate vessel by combining, olive oil, beeswax, stearic acid, cetyl alcohol, cetostearyl alcohol, glycerol monostearate (GMS), and emulsifying wax. The oil mixture was gradually heated to the same temperature range of 80–95°C, with gentle and consistent stirring until all waxes and emulsifiers melted completely. Once the oil phase was fully liquefied and homogeneous, it was slowly added to the water phase while both were maintained at the same temperature. Emulsification was carried out using a homogenizer, and the mixture was stirred thoroughly for 40–50 minutes until a smooth and creamy consistency was achieved. The emulsion was then allowed to cool gradually while stirring continued. At around 40°C, sodium benzoate, EDTA, and fragrance were added, with gentle mixing to avoid aeration. Stirring was continued until the cream cooled to room temperature, after which it was transferred into clean, sterilized containers for storage. (Table 2, Figure 2c)

Soap Preparation

In current study soap was prepared using Cold process method, the process began by adding the lye to water, stirring gently, and setting it aside until the solution became clear. *Varnya Yamaka* and olive oil were combined at room temperature. Once both the oils and the lye-water had cooled to below 48°C, the lye-water was carefully added to the oils, pouring it over the shaft of the stick blender to minimize the formation of air bubbles. The stick blender was tapped a few times against the bottom of the bowl to release any air trapped in the blades, ensuring it was fully immersed before being turned on. After the mixture reached the desired consistency, the soap was poured into the

mold. It was then sprayed with 91% isopropyl rubbing alcohol over a 90-minute period to help reduce soda ash formation. The entire mold was insulated by wrapping it in a large towel and set aside for at least 72 hours at room temperature before unmolding it. Finally, the soap was removed from the mold and kept in a well-ventilated area for 4 to 6 weeks. (Table 3, Figure 2d)

RESULTS

In this study, an attempt was made to formulate the cream and soap from *Varnya Mahakashaya* of *Charaka Samhita* for external application, as classical texts highlight its complexion-enhancing and blemish-reducing properties but lacks direct references to its mode of usage. All ingredients were used in specified classical proportions to prepare a *Yamaka* formulation, yielding 2.570 litres, which attained *Vartivat sneha kalka* and *Kharapaka* in 54 hours and 36 minutes. For the *Kwatha* preparation, *Sharangdhara*'s method[15] was followed, reducing 20 litres of liquid media to 5 litres over 6 hours and 45 minutes at 90–100°C. These active components were then formulated into a cream and soap. The cream was prepared using the Oil-in-Water (O/W) emulsion method. Initially been watery, the formulation gradually attained a stable semisolid consistency after 30 minutes, suitable for smooth topical application. The soap was developed using the Cold Process method, preserving the integrity of herbal actives. Both formulations were evaluated as per Indian Standards and met the required parameters. Notably, the *Varnya* soap achieved Grade A classification based on its Total Fatty Matter (TFM), in line with IS 286 (Part 1): 2015. This study validates the suitability of *Varnya Mahakashaya* in standardized external formulations with effective cosmetic potential.(Table 4)

Table 1: Ingredients of *Varnya Mahakashaya.*

INGREDIENTS	BOTANICAL NAME	PART USED	QUANTITY (*YAMAKA*)	QUANTITY (*KWATHA*)
Rakta Chandana	*Pterocarpus santalinus* Linn..	Heart wood	83.5g	83.5g
Padma Kesara	*Nelumbo nucifera* Gaertn.	Whole plant	83.5g	83.5g
Padmaka	*Prunus cerasoides* D. Don.	Stem	83.5g	83.5g
Ushira	*Vetiveria zizanoides*(Linn.) Nash.	Root	83.5g	83.5g
Yashtimadhu	*Glycyrrhiza glabra* Linn.	Root	83.5g	83.5g
Manjistha	*Rubia cordifolia* Linn.	Root	83.5g	83.5g
Sariva	*Hemidesmus indicus* R.Br.	Root	83.5g	83.5g
Vidarikanda	*Pueraria tuberosa* DC.	Tuber	83.5g	83.5g
Durva	*Cynodon dactylon* Pers.	Whole plant	167g	167g
Tila Taila	-		1.67lit	1.67lit
Go Ghrita	-		1.67lit	1.67lit
Water	-		13.33lit	13.33lit

Table 2: Formula for Cream Preparation.

Sl. No	Ingredients Name	Percentage (%)
Active Ingredients		
	Varnya Yamaka	20.00 %
	Olive Oil	10.00 %
	Varnya Kwatha	10.00 %
Base Ingredients		
	Distilled Water	46.70 %
	Bees Wax	3.50 %
	Stearic Acid	1.50 %
	Cetyl Alcohol	1.00 %
	Cetosteryl Alcohol	1.50 %
	Glycerol Mono Sterate (GMS)	1.75 %
	Emulsifying Wax	2.75 %

	Sodium Lauryl Sulfate (SLS) Needle	0.10 %
Optional/Additional Ingredients		
	Sodium Benzoate	0.60 %
	Ethylene Diamine Tetraacetic Acid (EDTA)	0.10 %
	Chandana Fragrance	0.50 %
Total		**100.00 %**

Table 3: Formula for Soap Preparation.

Sl. No.	Ingredients	Quantity (g)
Lye-Water Amounts		
	Sodium Hydroxide (Lye)	40.85 g
	Varnya Kwatha (as distilled water)	114.0 g
Base Ingredients Amounts		
	Varnya Yamaka	200.0 g
	Olive Oil	100.0 g
Fragrance		
	Chandana Fragrance	9.0 g
Soapmaking Equipment's-Heat-resistant beaker for measuring lye and water, Stick blender and Soap molds.		

Table 4: Analytical Values.

SL.NO	PARAMETER	STANDARD VALUE	OBSERVED VALUE(CREAM)	OBSERVED VALUE(SOAP)
1.	Colour, Odour & Appearance	-	Pink, Aromatic & Semisolid	Brown, Aromatic & smooth texture
2.	Ph	5-10[12]	5.3	9.6
3.	TFM(Total Fatty Matter)	36.8%[13]	44.78%	79.6%
4.	Moisture content	-	41.5%	9.19%
5.	Foam height[14]	1.3-22cm	-	6.6 cm
6.	Foam retention time[14]	Over 5 min	-	Over 4.30min foam was stable

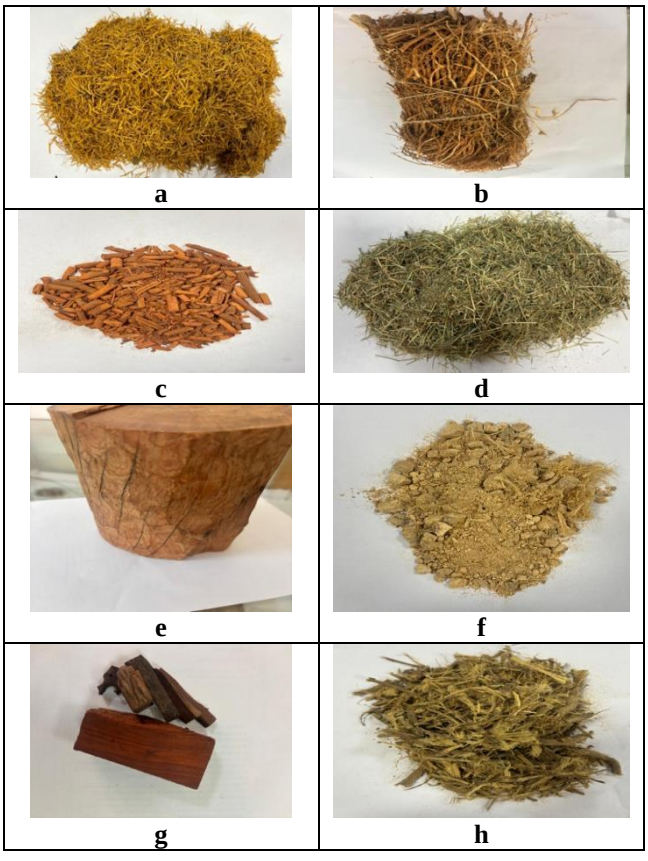

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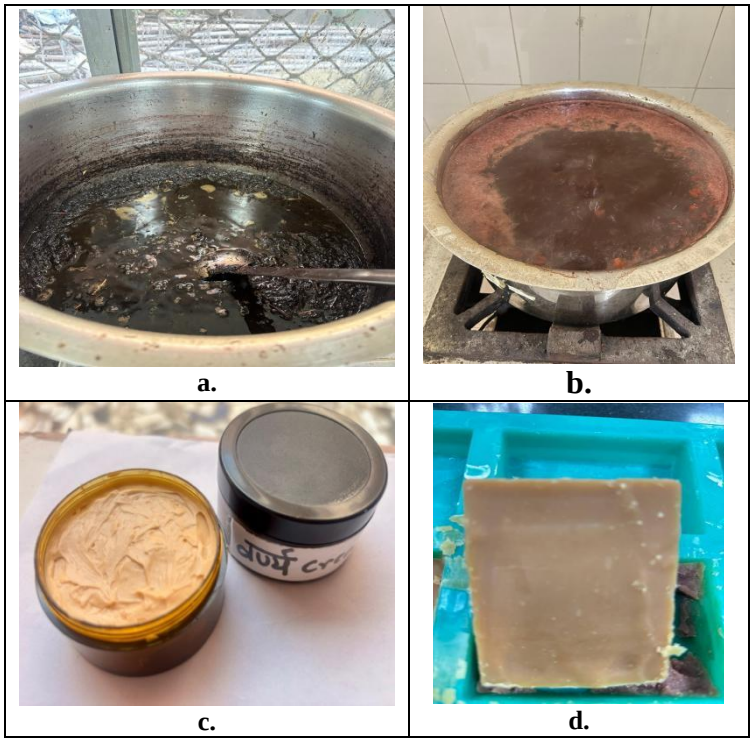
Figure 1: Ingredients of *Varnya Mahakashaya*: a) *Padma Kesara* (*Pterocarpus santalinus* Linn. f.), b) *Ushira* (*Vetiveria zizanoides (*Linn.) Nash.), c) *Manjistha* (*Rubia cordifolia* Linn.), d) *Durva* (*Cynodon dactylon* Pers.), e) *Padmaka* (*Prunus cerasoides* D. Don.), f) *Vidarikanda* (*Pueraria tuberosa* DC.), g) *Rakta Chandana* (*Pterocarpus santalinus* Linn. f.), h) *Yashtimadhu* (*Glycyrrhiza glabra* Linn.), i) *Sariva* (*Hemidesmus indicus* R.Br.)



a. b.

c. d.

Figure 2: Preparation of Cream and soap; a) Preparation of *Yamaka* b) Preparation of *Varnya Mahakashaya Kwatha* c) Prepared cream d) Prepared soap.

DISCUSSION

The present study aimed to explore the external application of *Varnya Mahakashaya*, a group of herbs from the *Charaka Samhita* known for enhancing complexion and reducing blemishes. Classical texts primarily focus on the internal uses of these herbs, with limited references to their external applications. To ensure authenticity in preparation, the study followed classical methods, using a *Yamaka* and *Kwatha*. *Yamaka* was prepared becuase *Ghrita* mentioned as *Vatapittaghna* and *Shoshanashana* and *Tilataila* is *Krimighna*, So *Yamaka* of both *Tilataila* and *Ghrita* acts best on skin problems, hence *Yamaka* prepared till it attained the *Kharapaka* stage . While the *Kwatha* was prepared using *Sharangdhara*'s method, reducing 20 litres to 5 litres over 6 hours and 45 minutes at 90–100°C.

A few substitutions were made in the formulation: *Vidarikanda* replaced *Payasya* as a substitute, following the references in *Dhanwantari Nighantu.*[16] *Vidarikanda* is considered a variety of *Ksheeravidari*, aligning with

Chakradatta's mention of *Payasya* as *Kakoli* or *Ksheeravidari*. Additionally, *Durva* was used in double quantity in place of *Sita* and *Lata* (types of *Durva*) to maintain the formulation's efficacy.

The prepared cream, using the Oil-in-Water (O/W) emulsion method, and soap, using the Cold Process method, were applied by volunteers with fungal infections. The results showed noticeable improvement in their conditions, confirming the beneficial effects of these formulations. The soap also met Grade A standards for Total Fatty Matter (TFM) as per IS 286 (Part 1): 2015. These findings underscore the potential of *Varnya Mahakashaya* as an effective topical treatment for skin infections and cosmetic applications.

CONCLUSION

The study successfully highlighted the potential of classical Ayurvedic formulations, particularly *Varnya Mahakashaya*, in addressing contemporary dermatological and cosmetic needs. By following traditional methods of preparation and incorporating thoughtful substitutions based on classical texts, the study ensured both authenticity and practical relevance. A herbal cream was developed using the Oil-in-Water emulsion method, and a soap was created through the Cold Process method—both preserving the therapeutic efficacy of the herbs while offering modern, user-friendly formats suitable for public use. Positive outcomes from volunteer applications, specially, in managing fungal skin conditions, affirmed the effectiveness of these formulations. Furthermore, the soap met Grade A TFM standards as per IS 286 (Part 1): 2015, confirming its safety and quality, and supporting its potential for commercial and therapeutic applications. The work bridged classical Ayurvedic knowledge with present-day needs, paving the way for wider acceptance and integration of herbal products into contemporary healthcare and cosmetic practices, thereby reaffirming the ongoing relevance of ancient formulations.

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