

NETRA VARTI IN AYURVEDA- AN IN-DEPTH REVIEW OF TRADITIONAL OPHTHALMIC WICKS AND THEIR THERAPEUTIC USES

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Article Received on 05 July 2026,
Article Revised on 26 July 2026,
Article Published on 01 Aug. 2026,
<https://doi.org/10.5281/zenodo.21696863>

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How to cite this Article: Dr. V. Soumiya*¹, Dr. Santosh Rahinj¹, Dr. Atri Ghosh¹, Dr. Pallavi Jagtap¹. (2026). Netra Varti In Ayurveda- An In-Depth Review of Traditional Ophthalmic Wicks And Their Therapeutic Uses. World Journal of Pharmaceutical Research, 15(11), 935–956. This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Background: *Shalaky Tantra* (branch of Ayurveda dealing with diseases above the clavicle) emphasizes the management of ocular disorders due to the importance of the eyes as essential sense organs. Ayurvedic formulations such as *Netra Varti* (ophthalmic wick) serve as localized medicated wicks designed for targeted therapy within natural body orifices, offering distinct advantages over systemic treatments.

Objective: This review aims to provide a comprehensive synthesis of classical ophthalmic wick formulations, their composition, preparation methods, modes of action, therapeutic applications, and potential integration with modern ophthalmic drug delivery systems. **Methods:** To examine classical Ayurvedic literature to analyse Varti Kalpana (wick formulations) regarding their preparation methods (Paka and Bhavana), types and specific herbal-mineral constituents utilised for treatment of Netra Rogas (eye illnesses). **Results:**

Ophthalmic wicks are classified chiefly into scraping (*Lekhana*), healing (*Ropana*), and nourishing (*Snehana*) types, each designed to address particular *Dosha* (biological humour) imbalances and ocular pathologies. Application involves transformation into a paste applied to the inner eyelid surface, enabling localized drug delivery with both local and systemic pharmacological effects. Composition analyses highlight sophisticated combinations

optimized for sustained therapeutic efficacy in ocular conditions. **Conclusion:** Ophthalmic wicks represent a traditional Ayurvedic innovation in ophthalmic drug delivery, balancing localized treatment with systemic benefits. Despite extensive classical documentation, there is a significant need for modern pharmacological validation, standardization, and clinical trials to substantiate efficacy and safety. Integrating classical knowledge with contemporary pharmaceutical sciences could advance formulation development, potentially bridging traditional and modern ophthalmic care.

KEYWORDS: Ayurvedic Pharmaceutics; Clinical validation; Biological humours; Drug delivery systems; Herbo-mineral formulations; Ocular disorders.

INTRODUCTION

Shalakya tantra, a branch of Ayurveda that deals with the Urdhwa-jatrugata rogas (diseases affecting the region above the clavicle), prioritizes eye diseases because eye is the most essential sense organ. Numerous therapeutic techniques that are supposed to increase or improve visual acuity and eye health are described in Ayurvedic texts.

In Ayurveda, **Varti** has been derived from “**Vati**” kalpana, but the main difference lies in their form and route of administration. Vati (tablet) is small, round or tablet-like preparations intended for oral intake and systemic effects, whereas varti kalpana produces solid, elongated, wick-shaped medicated preparations designed for local application.^[1] Varti is intended for insertion into natural body openings, excluding the oral cavity. These medicated wicks deliver herbal or herbo-mineral medicines directly to the affected area, such as the eyes (Netra Varti), rectum (Guda Varti), or vagina (Yoni Varti), they soften at body temperature, allowing a gradual release and absorption of the medication for localized treatment.^[2]

Different types of vartis like Haridradya Varti and other herbal formulations are used to alleviate redness, discharge, pain, and irritation in the eyes.^[3] Vartmagata rogas (diseases of the eyelids): Such as Pothaki (chalazion-like swelling), Bisa Vartma (cystic eyelid lesions), Praklinna Vartma (ulceration of eyelid) and others may present with swelling, discharge, and inflammation which is managed with specific Vartis etc.

The main features of Varti Kalpana are^[4]

1. A specific size and shape that ensures easy application.

2. Targeted local effects including cleansing (Lekhana), healing (Ropana), and balancing doshas at the affected site.
3. Frequent use in Ayurvedic treatments for wounds, infections, inflammation and eye conditions.
4. The ability to produce not only localized but also systemic effects through absorption at the site of use.

Modern ophthalmic drug delivery primarily employs ocular inserts rather than traditional suppositories. These small devices, often placed under the eyelid, act like ocular suppositories by releasing medication gradually or in a controlled manner. This approach enhances the drug's retention time on the cornea compared to eye drops, minimizing medication loss from tear drainage and systemic absorption.^[5] As a result, therapeutic effectiveness and safety improve, making treatment more efficient and patient friendly.

Table 1: Signs observed after application of varti.^[6]

Type	Lakshanas (Signs)
Samyak (Proper Application) yoga	Prakash kshamatva (clarity and brightness in vision), roga nivrutti (symptom relief), vaishadhya (feeling of lightness and freshness in the eyes), nimeshonmesha laghava (ability to easily open and close the eyes), anabhinandaniya (no discomfort or irritation)
Ati yoga (Deficient Application)	Netragaurava (Heaviness), netra avilata (blurring), ashru srava (lacrimation), Kandu (Itching) (itching), upadeha/ atisnigdha (stickiness or oiliness of the eyes), dosha samutklishta (worsening of dosha imbalance)
Heena (Excessive Application) yoga	Netra rukshata (dryness), asahyam roopadarshan (difficulty in vision), vyadhi vriddhi (aggravation of the disease).

METHOD OF PREPARATION

The preparation of Netra Varti in Ayurveda follows the general principles of Varti Kalpana and primarily uses two traditional methods:

Paka method^[7]

Jaggery (Guda) or sugar is gently boiled with water until it attains a 2-3 thread consistency. Finely powdered herbs known for treating eye disorders are slowly added to this syrup and stirred continuously to form a uniform mixture with a workable consistency. This mixture is then shaped into small wick-like forms (varti) sized for ocular application. These are dried in the shade and stored in airtight containers.

Bhavana Method^[8]

Medicinal herbs in fine powder form are triturated with specific liquids such as ghee, honey, or herbal juices to obtain a paste. This paste is molded into wick-shaped vartis of desired size. After drying properly, they become ready for use.

APPLICATION

For use, Netra Varti is gently rubbed on a pumice stone with water to create a paste, which is then applied onto the inner surface of the lower eyelids like a traditional collyrium (anjana). This helps cleanse, heal and balance doshas locally in eye disorders.^[9]

Types of varti^[10]

Based on the actions it has three types:

1. **Lekhana varti** (scraping or cleansing type, e.g., Chandrodya Varti)
2. **Ropana varti** (healing type, e.g., Kusumika Varti)
3. **Snehana varti** (nourishing or unctuous type)

Enlisted below is a detailed chart about the names, composition and the diseases in which netra vartis are used-

Table 2: List of netra vartis.

Sr. No.	Formulation Name (Sanskrit)	Composition with Botanical Names	Indications with English Translation	Form & Application	Reference Source
1	Nayanasukha Varti	Pippali (<i>Piper longum</i> Linn.) (1 part), Haritaki (<i>Terminalia chebula</i> Retz.) (2 parts)	Timira (Blurred Vision), Arma (Pterygium), Kacha (Mature Cataract), Ati Ashrustrava (Epiphora)	Eye Paste Anjana - Applied to conjunctival fornix twice daily	Chakra Datta (59, 121)
2	Trayushnadya Varti	Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Triphala [Amalaki (<i>Emblica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Tagara (<i>Valeriana wallichii</i> DC.), Saindhav (Rock Salt/NaCl), Hartal (Orpiment/As ₂ S ₃), Manashila (Realgar/As ₂ S ₂)	Reduces Kleda (Pathological Fluid Accumulation), Upadeha (Inflammatory Exudate), and Kandu (Ocular Pruritus/Itching)	Eye Paste Formulation - Varti form	Chakra Datta (59, 120)
3	Chandanadya Varti	Chandan (<i>Santalum album</i> Linn.), Triphala [Amalaki (<i>Emblica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Puga (<i>Areca catechu</i> Linn.), Mocharasa (Plant Extract)	Destroys all types of Timira (All Refractive Errors and Visual Dimness)	Eye Paste Anjana	Chakra Datta (59, 117)
4	Kokila Varti	Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Lauha Bhasma (Calcined Iron Oxide/Fe ₂ O ₃ -Fe ₃ O ₄ Nanoparticles), Saindhav (Rock Salt/NaCl), Triphala [Amalaki (<i>Emblica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Sauviranjana (Traditional	Destroys Timira (Blurred Vision)	Specialized Eye Paste	Chakra Datta (59, 131)

		Stain Preparation)			
5	Chandraprabha Varti (Pratham)	Rasanjana (<i>Berberis aristata</i> DC. Extract), Shweta Maricha [White Pepper - <i>Piper nigrum</i> var.], Shigru Beeja (<i>Moringa oleifera</i> Lam. Seeds), Pippali (<i>Piper longum</i> Linn.), Yashtimadhu (<i>Glycyrrhiza glabra</i> Linn.), Bibhitak (<i>Terminalia bellirica</i> Roxb.), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Manashila (Realgar/ As_2S_2), Aja Kshira (Goat Milk Vehicle)	Arbuda (Eye Tumor), Patala (Cataract), Kacha (Mature Cataract), Timira (Blurred Vision), Raktarajika (Hemorrhagic Eye Disease), Adhimamsa (Excessive Tissue Proliferation), Netramala (Orbital/Periorbital Pathology), Naktandhya (Night Blindness). Also effective in Jatandhya (Congenital Blindness from birth)	Multiple-indication Eye Paste	Chakra Datta (59, 121-124)
6	Shri Nagarjuna Varti	Triphala [Amalaki (<i>Embllica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Saindhav (Rock Salt/ NaCl), Yashtimadhu (<i>Glycyrrhiza glabra</i> Linn.), Tuttha (Blue Vitriol/ CuSO_4), Rasanjana (<i>Berberis aristata</i> DC. Extract), Prapaundarika (<i>Nymphaea alba</i> L./Water Lily), Lodhra (<i>Symplocos racemosa</i> Roxb.), Tamra (Copper-processed form), Varsha Jala (Rainwater Vehicle)	When mixed with Stri Dugdha (Female Breast Milk): Destroys Timira (Blurred Vision), Patala (Cataract), Sadya Netra Prakopa (Acute Eye Inflammation/Shothadi-Swelling). When mixed with Palash Pushpa Swarasa (<i>Butea monosperma</i> Flower Juice): Destroys Timira and Netra Roga (Eye Disease). When mixed with Lodhra Kwath (<i>Symplocos racemosa</i> Decoction): Destroys Timira. When mixed with Aja Mutra (Goat Urine): Destroys Chirakalina Timira (Chronic Blurred Vision), Gambhira Awasthagata Timira (Deep-seated Vision Loss). Netra Drushti Prasadana (Eye Vision Enhancement)	Multi-vehicle Formulation	Chakra Datta (59, 125-129)
7	Bruhatyadi Varti	Brihati (<i>Solanum indicum</i> Linn. - Poison	Alleviates all Vatika Netra Rogas	Vata-balancing Eye	Chakra Datta

		Berry), Eranda (<i>Ricinus communis</i> Linn. - Castor Plant), Shigru (<i>Moringa oleifera</i> Lam. - Drumstick), Saindhav (Rock Salt/NaCl), Aja Dugdha (Goat Milk Vehicle)	(Vata-dominant Eye Diseases including Neurological Eye Disorders, Dry Eye Syndrome, Pain-related Eye Conditions)	Paste	(59, 20)
8	Chandanadi Varti	Chandana (<i>Santalum album</i> Linn. - White Sandalwood), Gairik (Red Ochre/Iron Oxide), Laksha (Resin - <i>Laccifer lacca</i>), Malati Kalika (<i>Jasminum sambac</i> L. - Jasmine Flowers)	Cures Savrana Shukra (Ulcerated Corneal Opacity). Rakta Prasadana (Blood Purification, improving Ocular Blood Supply)	Cooling Eye Paste	Chakra Datta (59, 69)
9	Samudraphenadi Varti	Samudraphena (Cuttlefish Bone Ash/ <i>Sepia officinalis</i> - CaCO ₃ 80-85%), Dakshanda Twak (Tree Bark with Tannins), Saindhav (Rock Salt/NaCl), Shigru Beeja (<i>Moringa oleifera</i> Lam. Seeds), Madhu (Honey Vehicle), Shigru Kwath (<i>Moringa oleifera</i> Decoction)	Destroys Shukra Roga (Corneal Opacity/Turbidity and Related Eye Diseases)	Calcium-rich Eye Paste	Sharangdhara Samhita (Uttara Khanda 13/79)
10	Chandrodaya Varti (Bruhat)	Haritaki (<i>Terminalia chebula</i> Retz.), Vacha (<i>Acorus calamus</i> Linn. - Sweet Flag), Kustha (<i>Saussurea lappa</i> C.B. Clarke - Indian Costus Root), Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Bibhitaki Majja (<i>Terminalia bellirica</i> Roxb. Seed/Kernel), Shankhanabhi (Conch Deposit/CaCO ₃), Manashila (Realgar/As ₂ S ₂), Aja Dugdha (Goat Milk Vehicle)	Cures Timira (Blurred Vision), Kandu (Ocular Pruritus/Itching), Patala (Cataract), Arbuda (Eye Tumor), Adhimamsa (Excessive Tissue Growth), Naktandhya (Night Blindness), and other Netra Rogas (Eye Diseases). Drushti Prasadana (Vision Enhancement). If used for one month, destroys Netrapushpa (Persistent Corneal Opacity) lasting up to 2 years	Comprehensive Multi-purpose Eye Paste	Chakra Datta (59, 108-109)
11	Patradi Varti	Patra (<i>Piper betle</i> Linn. - Betel Leaf), Gairika (Red Ochre/Iron Oxide), Karpura (<i>Cinnamomum camphora</i> L.J.Presl - Camphor), Yashti (<i>Glycyrrhiza</i>	When used regularly on a daily basis, destroys Timira (Blurred Vision and Refractive Errors)	Regular-use Eye Paste	Chakra Datta (59, 135)

		<i>glabra</i> Linn. Root - Liquorice Stick), Nilotpala (<i>Nymphaea nouchali</i> Burm.f. - Blue Lotus), Rasanjana (<i>Berberis aristata</i> DC. Extract), Nagkeshara (<i>Mesua ferrea</i> L. - Mesua Flowers)			
12	Triphaladi Varti (Chakshushya Prabhavkari)	Triphala [Amalaki (<i>Embllica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Kukutanda Twak (Eggshell Powder/ CaCO_3), Kasisa (Iron Sulfate/ $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$), Lauha Bhasma (Calcined Iron Oxide Nanoparticles/ Fe_2O_3 - Fe_3O_4), Nilotpala (<i>Nymphaea nouchali</i> Burm.f. - Blue Lotus), Vidanga (<i>Embelia ribes</i> Burm.f. - False Black Pepper), Samudraphena (Cuttlefish Bone/ CaCO_3), Aja Dugdha (Goat Milk Vehicle)	It is Chakshushya Prabhavkari (Possesses Vision-enhancing Powerful Property). Application of this Varti is said to bestow sight even upon the blind (Vision restoration despite advanced blindness)	Vision-restoring Eye Paste	Chakra Datta (59, 115-116)
13	Manjisthadi Varti	Manjistha (<i>Rubia cordifolia</i> Linn. - Indian Madder), Madhuka (<i>Glycyrrhiza glabra</i> Linn. - Liquorice), Utpala (<i>Nymphaea nouchali</i> Burm.f. - Blue Lotus), Samudraphena (Cuttlefish Bone/ CaCO_3), Twak (Tree Bark), Ushira (<i>Vetiveria zizanioides</i> L.Nash - Vetiver Root), Gorochana (Bovine Biliary Calculus/Bile Salts + Cholesterol), Jatamansi (<i>Nardostachys jatamansi</i> D.C. - Spikenard Root), Chandana (<i>Santalum album</i> Linn. - White Sandalwood), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Patra (<i>Piper betle</i> Linn. - Betel Leaf), Gairika	Cures Kandu (Ocular Pruritus/Itching), Kleda (Pathological Fluid Accumulation), Mala (Morbid MatterAshru (Excessive Lacrimation), Shonita (Blood Disorders), Ruja (Eye Pain), Pilla (Eyelid Disease), Arma (Pterygium), Shukra (Corneal Opacity/Turbidity)	Comprehensive Multi-symptom Eye Paste	Chakra Datta (59, 229)

		(Red Ochre/Iron Oxide), Talisha (<i>Abies webbiana</i> - Fir Tree Resin), Pushpanjana (Flower-derived Paste), Rasanjana (<i>Berberis aristata</i> DC. Extract)			
14	Danta Varti	Danta and Lalat Asthi (Tooth and Frontal Bone) of Hasti (Elephant), Varaha (Wild Boar), Ushtra (Camel), Gau (Cow), Ashwa (Horse), Aja (Goat), Khara (Donkey), Shankhanabhi (Conch Deposit/ CaCO_3), Mauktik (Pearl/ CaCO_3 from Mollusks), Samudraphena (Cuttlefish Bone/ CaCO_3), Maricha Churna (<i>Piper nigrum</i> Linn. Powder)	Cures Kshata Shukra (Traumatic Corneal Scarring/Opacity) along with other Eye Diseases	Osseous (Bone-based) Eye Paste	Chakra Datta (59, 81)
15	Haridradi Varti	Haridra (<i>Curcuma longa</i> Linn. - Turmeric), Nimba Patra (<i>Azadirachta indica</i> A.Juss - Neem Leaves), Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Bhadra Musta (<i>Cyperus rotundus</i> Linn. - Nut Grass Tuber), Vidanga (<i>Embelia ribes</i> Burm.f.), Shunthi (<i>Zingiber officinale</i> Roscoe - Ginger), Gomutra (Cow Urine Vehicle), Chaga Mutra (Goat Urine Vehicle)	When mixed with Jala (Water): Cures Timira (Blurred Vision). When mixed with Madhu (Honey): Destroys Bhrungaraj Swarasa (<i>Eclipta alba</i> Juice). When mixed with Nari Stanya (Female Breast Milk): Cures Timira, Patala (Cataract), Naktandhya (Night Blindness), Netrapushpa (Corneal Opacity). When used with Shishira (Cold/Cool conditions): Cures Paristrava (Excessive Discharge), Adhrusha (Eye Redness), Picchita (Adhesions/Synechia)	Multi-vehicle Turmeric-based Eye Paste	Chakra Datta (59, 138-140)
16	Shankhadi Varti	Shankha Bhasma (Calcined Conch Shell/ CaCO_3) (4 parts), Manashila (Realgar/ As_2S_2) (2 parts), Maricha (<i>Piper nigrum</i> Linn.) (1 part), Pippali (<i>Piper longum</i> Linn.) (1/2 part)	When used with Jala (Water): Cures Timira (Blurred Vision). When used with Mastu (Buttermilk): Cures Arbuda (Eye Tumor). When used with Madhu	Ratio-based Mineral Eye Paste	Chakra Datta (59, 136-137)

			(Honey): Cures Picchira (Adhesion)		
17	Nilotpaladi Varti	Nilotpala (<i>Nymphaea nouchali</i> Burm.f. - Blue Lotus), Vidanga (<i>Embelia ribes</i> Burm.f.), Pippali (<i>Piper longum</i> Linn.), Raktachandana (<i>Pterocarpus santalinus</i> Linn.f. - Red Sandalwood), Nagkeshara (<i>Mesua ferrea</i> L. - Mesua Flowers)	Cures all types of Timira (All categories of Blurred Vision/Refractive Errors)	Lotus-based Eye Paste	Chakra Datta (59, 134)
18	Pathyadi Varti	Haritaki (<i>Terminalia chebula</i> Retz.) (3 parts), Bibhitaki (<i>Terminalia bellirica</i> Roxb.) (2 parts), Amalaki (<i>Embllica officinalis</i> Gaertn.) (1 part) - Beeja Majja (Seed/Kernel of Triphala)	Alleviates Pragadha Ashrustrava (Copious/Heavy Tearing), Netra Prakopa (Acute Eye Inflammation)	Ratio-based Triphala Eye Paste	Chakra Datta (59, 210)
19	Kanavarti	Pippali Phala (<i>Piper longum</i> Linn. Fruit), Aja Yakrut (Goat Liver Extract/Organ Preparation)	Cures Naktandhya (Night Blindness)	Liver-based Eye Paste	Chakra Datta (59, 168)
20	Rasanjanadi Varti	Rasanjana (<i>Berberis aristata</i> DC. Extract), Ghruta (Clarified Butter/Ghee Vehicle), Madhu (Honey Vehicle), Talisha (<i>Abies webbiana</i> - Fir Resin), Suvarna Gairika (Gold-processed Red Ochre), Goshakrud Rasa (Herbal Extract Preparation)	Cures Pittopahata Drushti (Inflammatory Vision Loss)	Gold-processed Eye Paste	Chakra Datta (59, 504)
20	Meshashrungyadi Varti	Meshashrungi Patra (Fish Bone Plant Leaf), Shirisha (<i>Albizia lebbek</i> L.Benth. - Woman's Tongue Tree), Dhava (<i>Anogeissus latifolia</i> D.C.Wall.ex Bedd. - Dhava Tree), Jati (<i>Jasminum grandiflorum</i> Linn. - Jasmine), Mukta (Pearl/CaCO ₃), Vaidurya (Lapis Lazuli/Na ₈ (Al ₆ Si ₆ O ₂₄)S ₂ SO ₄), Aja Dugdha (Goat Milk Vehicle)	Drushti Prasadana (Visual Clarity Improvement)	Semi-precious Stone-based Eye Paste	Chakra Datta (59, 162-163)
22	Sukhavati Varti	Kataka Beeja (<i>Strychnos potatorum</i> Linn. -	Destroys Timira (Blurred Vision),	Comprehensive	Chakra Datta

		Clearing Nut Seed), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Saindhav (Rock Salt/ NaCl), Sharkara (Sugar/Sucrose), Samudraphena (Cuttlefish Bone/ CaCO_3), Rasanjana (<i>Berberis aristata</i> DC. Extract), Vidanga (<i>Embelia ribes</i> Burm.f.), Manashila (Realgar/ As_2S_2), Kukutanda Kapala (Eggshell Powder/ CaCO_3), Madhu (Honey Vehicle)	Patala (Cataract), Kacha (Mature Cataract), Arma (Pterygium), Shukra (Corneal Opacity), Kandu (Ocular Pruritus), Strava (Excessive Discharge), Arbuda (Eye Tumor), Netramala (Orbital Pathology)	Mineral Eye Paste	(59, 108-109)
23	Ratnadya Varti	Ratna (Precious Stones/Gems), Uparatna (Semi-precious Stones), Danta (Tooth Material), Shrunga (Horn Material), Dhatu (Metal Elements), Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Truti (Small Quantity), Karanja (<i>Pongamia pinnata</i> L.Pierre - Indian Beech), Lashuna (<i>Allium sativum</i> Linn. - Garlic)	Cures Savrana Shukra (Ulcerated Corneal Opacity), Avrana Shukra (Non-ulcerated Corneal Opacity), Vrana Gambhira Netra Vikara (Deep Ocular Ulceration), Charmgata Netrapushpa Roga (Corneal Scarring with Tissue Involvement)	Gem and Metal-based Eye Paste	Gada Nigraha (3.3, 193G-194)
24	Tamalapatraadi Varti	Tamalapatra (<i>Cinnamomum tamala</i> Buch.-Ham.T.Nees & Eberm. - Bay/Cinnamon Leaf), Godanta (Bovine Tooth), Shankha (Conch Shell), Samudraphena (Cuttlefish Bone/ CaCO_3), Gardabhashthi (Donkey Bone), Tamra (Copper-processed form), Aja Mutra (Goat Urine Vehicle)	Destroys Netra Shukra (Corneal/Scleral Opacity/Turbidity)	Bone and Conch-based Eye Paste	Gada Nigraha (3.3, 193G-194)
25	Shukraghni Varti	Samudraphena (Cuttlefish Bone/ CaCO_3), Dakshanda (Tannin-rich Tree Bark), Saindhav (Rock Salt/ NaCl), Lavana (Salt	Destroys Shukra Roga (Corneal Opacity/Turbidity Diseases)	Saline-based Eye Paste	Gada Nigraha (192b-193a)

		Preparation), Shankha Bhasma (Calcined Conch Shell/CaCO ₃), Shigru Beeja (<i>Moringa oleifera</i> Lam. Seeds), Shigru Swarasa (<i>Moringa oleifera</i> Fresh Juice)			
26	Chandraprabha Varti (Dwitiya)	Tripahla (Three Myrobalans - <i>Terminalia</i> species combination), Saindhav (Rock Salt/NaCl), Lauha Churna (Iron Powder), Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Aja Dugdha (Goat Milk Vehicle)	When combined with Stanya (Breast Milk)/Kanji (Fermented Liquid): Cures Netra Pushpa (Corneal Opacity/Cloudiness). When given with Madhu (Honey): Cures Timira (Blurred Vision). When given with Haritaki Rasa (<i>Terminalia</i> Extract): Cures Patalgata Roga (Deep-layer Ocular Disease). When combined with Kakamachi Rasa (<i>Solanum nigrum</i> Juice): Cures Naktandhya (Night Blindness) and Netragata Kamala (Jaundice-related Eye Disease). When given with Kadali Kandarasa (Banana Stem Extract): Cures Netra Shotha (Eye Edema)	Multi-vehicle Iron-based Eye Paste	Gada Nigraha (474-476)
27	Shankhanabhyadi Varti	Shankhanabhi Varti (Conch Deposit), Vacha (<i>Acorus calamus</i> Linn. - Sweet Flag), Haritaki (<i>Terminalia chebula</i> Retz.), Maricha (<i>Piper nigrum</i> Linn.), Kushta (<i>Saussurea lappa</i> C.B.Clarke - Indian Costus Root), Akshamajja (Nut Kernel/Extract), Nari Mutra (Human Urine Vehicle)	Destroys Timira Roga (Blurred Vision/Refractive Errors), Picchita (Adhesions), Patalgata Roga (Deep-layer Ocular Disease)	Urine-based Eye Paste	Gada Nigraha (468-469)
28	Pushpa Varti	Mushashruni (<i>Plantago erosa</i> Wall./Fish Bone Plant), Shirisha (<i>Albizia lebbek</i> L.Benth. - Woman's Tongue Tree),	Alleviates Netra Rogas (All Eye Diseases/Ocular Pathologies)	Flower-based Eye Paste	Gada Nigraha (432-433)

		Dhava (<i>Anogeissus latifolia</i> D.C.Wall.ex Bedd.), Malati (<i>Jasminum sambac</i> L.Aiton - Jasmine), Mukta (Pearl/ CaCO_3), Vaidurya (Lapis Lazuli/ $\text{Na}_8(\text{Al}_6\text{Si}_6\text{O}_{24})\text{S}_2\text{SO}_4$), Aja Dugdha (Goat Milk Vehicle)			
29	Karanjadi Varti	Naktamala (Night-flowering Plant), Kinshuka Swarasa (<i>Butea monosperma</i> L.Taub. - Flame of Forest Juice)	Cures Netragata Pushpa (Corneal Opacity), Netra Pandu (Corneal Pallor)	Flowering Plant-based Eye Paste	Gada Nigraha (374)
30	Raktachandadi Varti	Arunchandana (<i>Pterocarpus santalinus</i> Linn.f. Variant - Red Sandalwood), Madhadika (Sweet Plant/Extract), Nisha (<i>Curcuma longa</i> Linn. - Turmeric), Kataka Beeja (<i>Strychnos potatorum</i> Linn. - Clearing Nut), Yuta (Combined/Mixed), Gagan Ambasa (Sky Water/Pure Water)	Cures Prakupit Netra Rogas (Aggravated Eye Diseases)	Sandalwood-based Eye Paste	Gada Nigraha (369)
31	Karanja Beeja Varti	Karanja Beeja (<i>Pongamia pinnata</i> L.Pierre - Indian Beech Seeds), Palasha Pushpa Swarasa (<i>Butea monosperma</i> L.Taub. Flower Fresh Juice)	Cures Shukra Roga (Corneal Opacity/Turbidity Disease)	Seed and Flower Juice Eye Paste	Gada Nigraha (293)
32	Shastra Varti	Samudraphena (Cuttlefish Bone/ CaCO_3), Dakshanda (Tannin-rich Tree Bark), Saindhav Lavana (Rock Salt/ NaCl), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Shigru Beeja (<i>Moringa oleifera</i> Lam. Seeds)	Destroys Netra Shukra (Corneal/Scleral Opacity)	Post-surgical Eye Paste	Gada Nigraha (291)
33	Chandrodaya Varti (Laghu)	Rasanjana (<i>Berberis aristata</i> DC. Extract), Shilajatu (Mineral Pitch/Asphaltum), Nagkeshara (<i>Mesua ferrea</i> L. - Mesua Flowers), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Manashila	Destroys Pilla Rogas (Eyelid Diseases), Netra Kandu (Ocular Pruritus/Itching), Timira Roga (Blurred Vision)	Mineral-based Eye Paste	Gada Nigraha (245-246)

		(Realgar/As ₂ S ₂), Shweta Maricha (<i>Piper nigrum</i> L. White Pepper), Sharkara (Sugar/Sucrose)			
34	Chaturbhadrika Varti	Laksha (Resin - <i>Laccifer lacca</i>), Suvana Gairika (Gold-processed Red Ochre), Raktachandana (<i>Pterocarpus santalinus</i> Linn.f. - Red Sandalwood), Jati Pushpa (<i>Jasminum grandiflorum</i> Linn. - Jasmine Flowers)	Cures Netra Shukra (Corneal Opacity), Netra Arma (Ocular Pterygium), Netra Raga (Eye Redness/Conjunctival Hyperemia). It is Netra Prasadakara (Eye Clarifying/Vision-clarifying)	Resin and Jasmine-based Eye Paste	Gada Nigraha (292)
35	Shadangi Varti	Chandana (<i>Santalum album</i> Linn. - White Sandalwood), Triphala [Amalaki (<i>Emblica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Puga (<i>Areca catechu</i> Linn.), Palasha (<i>Butea monosperma</i> L.Taub. - Flame of Forest), Palasha Niryasa (<i>Butea monosperma</i> Resin Extract)	Destroys Timira Roga (Blurred Vision/Refractive Errors)	Sandalwood-Triphala-based Eye Paste	Gada Nigraha (288)
36	Navangi Varti	Trayushna (Three Spices/Trikatu components), Triphala [Amalaki (<i>Emblica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Saindhav (Rock Salt/NaCl), Shilajit (Mineral Pitch/Asphaltum), Hartal (Orpiment/As ₂ S ₃)	Destroys Netra Kleda (Pathological Eye Fluid Accumulation/Edema), Upadeha (Inflammatory Exudate), Netra Kandu (Ocular Pruritus/Itching). It is considered beneficial in the Shamana (Palliation) of Kaphavataj Netra Rogas (Kapha-Vata-dominant Eye Diseases)	Mineral-Asphalt-based Eye Paste	Gada Nigraha (291)
37	Shobhana Varti	Vyosha (Drying/Desiccant Agent), Nilotpala (<i>Nymphaea nouchali</i> Burm.f. - Blue Lotus), Kustha (<i>Saussurea lappa</i> C.B.Clarke - Indian Costus Root), Tarkshya (Specific Plant/Extract)	Cures Vartmar Buda (Eyelid Swelling/Tumor), Patalgata Roga (Deep-layer Ocular Disease), Netra Strava (Excessive Eye Discharge), Timira (Blurred Vision), Vartma	Drying/Desiccant Eye Paste	Gada Nigraha (289)

			Roga (Eyelid Disease), Arma (Pterygium)		
38	Sarivadi Varti	Sariva (Indian Sarsaparilla/ <i>Hemidesmus indicus</i> R.Br.), Triphala [<i>Amalaki</i> (<i>Emblica officinalis</i> Gaertn.), <i>Bibhitaki</i> (<i>Terminalia bellirica</i> Roxb.), <i>Haritaki</i> (<i>Terminalia chebula</i> Retz.)], <i>Ushira</i> (<i>Vetiveria zizanioides</i> L.Nash - Vetiver), <i>Yukta</i> (Appropriately Combined), <i>Raktachandana</i> (<i>Pterocarpus santalinus</i> Linn.f. - Red Sandalwood), <i>Padma Kashta</i> (<i>Nelumbo nucifera</i> Gaertn. Heartwood/Extract)	Destroys Pittaja Timira (Pitta-dominant Blurred Vision/Inflammatory Vision Loss)	Cooling Anti-inflammatory Eye Paste	Yog Ratnakar Netraroga (Timira 4)
39	Shashikala Varti	Rasaka (Mercury-based Preparation), <i>Shankha Nabhi Bhasma</i> (Calcined Conch Deposit/ CaCO_3), <i>Paura</i> (Specific Plant), <i>Tuttha</i> (Blue Vitriol/ CuSO_4), <i>Nibuka Swarasa</i> (Citrus/Lemon Juice Extract)	Cures Timira Roga (Blurred Vision), <i>Kusuma Roga</i> (Eye Opacity/Flowering Disease), <i>Kandu</i> (Ocular Pruritus/Itching), <i>Strava</i> (Excessive Discharge), <i>Raga</i> (Eye Redness), <i>Arma</i> (Pterygium), <i>Pilla Roga</i> (Eyelid Disease)	Mercury-based Eye Paste	Yog Ratnakar Netraroga (Timira 4)
40	Chandrodaya Varti (Tritiya)	<i>Shankha Nabhi Bhasma</i> (Calcined Conch Deposit/ CaCO_3), <i>Bibhitaka</i> (<i>Terminalia bellirica</i> Roxb.), <i>Pathya</i> (Wholesome/Specific Herb), <i>Manashila</i> (Realgar/ As_2S_2), <i>Pippali</i> (<i>Piper longum</i> Linn.), <i>Maricha</i> (<i>Piper nigrum</i> Linn.), <i>Kustha</i> (<i>Saussurea lappa</i> C.B.Clarke), <i>Vacha</i> (<i>Acorus calamus</i> Linn.), <i>Aja Ksheera</i> (Goat Milk Vehicle)	Cures different Netra Rogas (Eye Diseases) including: <i>Timira</i> (Blurred Vision), <i>Mamsa Vruddhi</i> (Excessive Tissue Growth), <i>Kacha</i> (Mature Cataract), <i>Patalgata Rogas</i> (Deep-layer Ocular Diseases), <i>Netra Arbuda</i> (Ocular Tumor), <i>Pushpa</i> (Corneal Opacity) persisting for one year or longer	Comprehensive 9-ingredient Eye Paste	Yog Ratnakar Netraroga (Timira 4)
41	Chandraprabha Varti (Tritiya)	<i>Haridra</i> (<i>Curcuma longa</i> Linn. - Turmeric), <i>Nimba Patra</i> (<i>Azadirachta indica</i> A.Juss - Neem Leaves), <i>Pippali</i> (<i>Piper</i>	When used with different Dravya (Liquid media): With <i>Jala</i> (Water): Cures <i>Timira Roga</i> (Blurred	Multi-vehicle Turmeric-based Eye Paste	Yog Ratnakar Netraroga

		<i>longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Vidanga (<i>Embelia ribes</i> Burm.f.), Bhadramusta (<i>Cyperus rotundus</i> Linn. - Nut Grass), Haritaki (<i>Terminalia chebula</i> Retz.), Aja Mutra (Goat Urine Vehicle)	Vision). With Gomutra (Cow Urine): Cures Pishta Roga (Pinguecula/Conjunctival Degeneration). With Madhu (Honey): Cures Patala Gata Roga (Cataract/Deep-layer Disease). With Stanya (Breast Milk): Cures Pushpaka Roga (Corneal Opacity/Flowering Disease)		(Timira 4)
42	Pundrayadi Varti	Pundra (Shell Conchiolin/Conch), Yashtimadhu (<i>Glycyrrhiza glabra</i> Linn. - Liquorice), Kakoli (<i>Fritillaria roylei</i> Hook.f. - Himalayan Fritillary), Sinhi (<i>Solanum xanthocarpum</i> Schrad./Brihati variety), Loha Bhasma (Calcined Iron Oxide/Fe ₂ O ₃ -Fe ₃ O ₄), Nisha (<i>Curcuma longa</i> Linn. - Turmeric), Anjana (Eye Paste), Aja Dugdha (Goat Milk Vehicle)	Used to cure Sira Shukra (Corneal/Scleral Opacity affecting Vessels/Vasculature). It also cures Shukra Roga (Corneal Opacity/Turbidity Disease)	Mineral and Herb-based Eye Paste	Ashtang Hridaya (Uttara. 11, 49b-50)
43	Shashasthyadi Varti	Danta and Lalat Asthi (Tooth and Frontal Bone) of Shasha (Hare), Go (Cow), Khara (Donkey), Shweta Go Val (White Cow Horn/Antler), Maricha (<i>Piper nigrum</i> Linn.), Shankha Bhasma (Calcined Conch Shell/CaCO ₃), Chandana (<i>Santalum album</i> Linn.), Samudraphena (Cuttlefish Bone/CaCO ₃), Stri Dugdha (Female Breast Milk), Aja Ksheera (Goat Milk Vehicle)	Destroys Timira (Blurred Vision) and Shukra Rogas (Corneal Opacity/Turbidity Diseases)	Osseous and Mineral Eye Paste	Ashtang Hridaya (13, 72-73a)
44	Vimala Varti	Shankha Bhasma (Calcined Conch Shell/CaCO ₃), Priyangu (<i>Aglaia odorata</i> Lour. - Chinese Perfume Plant), Nepali (Specific Herb/Spice), Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha	Helps in achieving Netra Vimalata (Eye Purity/Transparency/Corneal Clarity and Overall Eye Cleanliness). Darshan Shakti becomes good by using this Varti	Purity-promoting Eye Paste	Ashtang Hridaya (13, 70b-71a)

		(<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Triphala [Amalaki (<i>Embllica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)]	(Improves Visual Perception/Visual Acuity)		
45	Drakshadya Varti	Draksha (<i>Vitis vinifera</i> Linn. - Raisins/Grapes), Nalada (Specific Plant), Lodhra (<i>Symplocos racemosa</i> Roxb.), Yashtimadhu (<i>Glycyrrhiza glabra</i> Linn. - Liquorice), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Tamra Bhasma (Calcined Copper/Cu), Hima (Cold/Cooling), Padma (<i>Nelumbo nucifera</i> Gaertn. - Sacred Lotus), Padmaka (<i>Nelumbo nucifera</i> Heartwood/Extraction), Utpala (<i>Nymphaea stellata</i> Willd./ <i>Nymphaea pubescens</i> - Lotus), Aja Dugdha (Goat Milk Vehicle)	Cures Rakta Janita Timira (Blood-related Blurred Vision/Vascular Eye Disease/Hypertensive Retinopathy)	Blood-cooling Lotus-based Eye Paste	Ashtang Hridaya (73, 74)
46	Adhakyadi Varti	Adhaki (<i>Cajanus cajan</i> L.Millsp. - Pigeon Pea), Maricha (<i>Piper nigrum</i> Linn.), Hartal (Orpiment/ As_2S_3), Rasanjana (<i>Berberis aristata</i> DC. Extract), Guda (Jaggery/Unrefined Sugar), Divyambu (Holy/Blessed Water)	Used in Paschat Karma (Post-operative/Follow-up Treatment) of Shastra Kriya (Surgical Procedures) of Lingnasha (Complete Blindness Reversal Surgery/Advanced Cataract Extraction)	Post-surgical Eye Paste	Ashtang Hridaya (14, 30)
47	Sumanadi Varti	Suman Koraka (Flower Bud/Unopened Flower), Shankha Bhasma (Calcined Conch Shell/ CaCO_3), Triphala [Amalaki (<i>Embllica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Madhuka (<i>Glycyrrhiza glabra</i> Linn. - Liquorice), Bala (<i>Sida cordifolia</i> L. - Country Mallow), Varsha	Alleviates Pitta and Rakta Prakopajanya Adhimantha (Pitta and Blood-related Acute Glaucoma/Eye Inflammation with Raised IOP). It is also useful in Shleshmakshi Roga (Kapha-dominant Eye Disease/Chronic Allergic Conjunctivitis)	Anti-inflammatory Anti-pitta Eye Paste	Ashtang Hridaya (16, 23)

		Jala (Rainwater Vehicle)			
48	Saindhavadi Varti	Saindhav (Rock Salt/NaCl), Triphala [Amalaki (<i>Embllica officinalis</i> Gaertn.), Bibhitaki (<i>Terminalia bellirica</i> Roxb.), Haritaki (<i>Terminalia chebula</i> Retz.)], Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Shankha Nabhi (Conch Deposit/CaCO ₃), Samudraphena (Cuttlefish Bone/CaCO ₃), Eleyaka (Specific Plant), Sarja (Resin/ <i>Vateria indica</i> Linn.)	Kaphajanit Adhimantha (Kapha-dominant Acute Glaucoma/Congestive Eye Inflammation)	Kapha-subduing Eye Paste	Ashtang Hridaya (16, 23)
49	Nadijadi Varti	Nadij/Saindhav Lavana (Rock Salt/NaCl), Shankha Bhasma (Calcined Conch Shell/CaCO ₃), Trikatu [Pippali (<i>Piper longum</i> Linn.), Maricha (<i>Piper nigrum</i> Linn.), Shunti (<i>Zingiber officinale</i> Roscoe)], Rasanjana (<i>Berberis aristata</i> DC. Extract), Manashila (Realgar/As ₂ S ₂), Haridra (<i>Curcuma longa</i> Linn. - Turmeric), Daruharidra (<i>Berberis aristata</i> DC. - Tree Turmeric Root), Goshakrud (Herbal Extract), Chandana (<i>Santalum album</i> Linn. - White Sandalwood)	Alleviates Ratryandhya (Night Blindness/Nocturnal Vision Loss) and Divandhya (Day Blindness/Photophobia with Vision Loss)	Anti-blindness Eye Paste	Chakra Datta (59, 138-140)
50	Pravaladi Varti	Praval (Red Coral/CaCO ₃), Mukta (Pearl/CaCO ₃ from Mollusks), Vaidurya (Lapis Lazuli/Na ₈ (Al ₆ Si ₆ O ₂₄)S ₂ SO ₄), Shankha (Conch Shell/CaCO ₃), Sphatika (Crystal/Alum/KAl(SO ₄) ₂ ·12H ₂ O), Chandana (<i>Santalum album</i> Linn. - White Sandalwood), Suvana Bhasma (Calcined	Destroys Netragata Shuktika Roga (Conjunctival Xerosis/Dry Eye with Oyster Shell-like Appearance)	Precious Gem and Precious Metal Eye Paste	Chakra Datta (59)

		Gold/Au), Rajat Bhasma (Calcined Silver/Ag), Madhu (Honey Vehicle)			
51	Panchashatika Varti	Nilotpala (<i>Nymphaea nouchali</i> Burm.f. - Blue Lotus), Pushpa Patra (Flower Petals), Nistusha Mudga (Dehusked Green Gram/Mung Bean), Nistusha Yava (Dehusked Barley Grain), Malati Pushpa (<i>Jasminum sambac</i> L.Aiton - Jasmine Flowers), Pippali Tandula (<i>Piper longum</i> Linn. Grain/Dried Fruit)	Using this Varti everyday cures Vataja (Vata-dominant Eye Diseases), Pittaja (Pitta-dominant Eye Diseases), Kaphaja (Kapha-dominant Eye Diseases), and Sannipatik Netra Rogas (Tridoshic Eye Diseases). It specially cures Timira (Blurred Vision), Netra Patalgata Rogas (Deep-layer Ocular Diseases), Kacha Roga (Mature Cataract), Ati Ashrustrava (Excessive Tearing/Epiphora)	Daily-use Universal Eye Paste	Bhaishajya Ratnavali (64, 200-201)
52	Rasanjanadi Varti (Revised)	Rasanjana (<i>Berberis aristata</i> DC. Extract), Churna (Powdered Form), Rajat (Silver/Ag), Kharpara (Specific Mineral), Naga (Tin/Sn), Shankha Nabhi (Conch Deposit/CaCO ₃), Tamra (Copper/Cu), Kansya (Bronze Alloy), Karpura (<i>Cinnamomum camphora</i> L.J.Presl - Camphor), Rasasindura (Mercuric Sulfide/HgS), Hansapadi Swarasa (Herb Extract/Botanical Juice)	Alleviates all Akshigata Rogas (All Ocular Pathologies/Eye Diseases in General)	Universal Metal and Mineral Eye Paste	Bhaishajya Ratnavali (64, 202-203)

DISCUSSION

Netra Varti exerts its therapeutic effects through both local and systemic pathways by delivering active medicinal agents directly to ocular tissues to address various ophthalmic disorders.^[11]

Local mode of action

1. Netra Varti is administered as a medicated paste applied to the inner conjunctival surface of the eyelid, facilitating direct contact with the ocular tissues.^[12]
2. The formulation contains active herbal and mineral constituents characterized by tikshna (penetrative) and ruksha (desiccative) properties, which aid in the clearance of local doshic imbalances, particularly mitigating excessive kapha and pitta within the netra srotas (ocular channels). The action often includes scraping (lekhana), soothing (prasadana), or lubricating (snehana), depending on ingredient composition and disease indication.^[13]
3. Therapeutic actions include scraping (lekhana), soothing (prasadana), or lubricating (snehana) effects, contingent on the specific ingredient composition and the pathology being treated.^[14]
4. The direct mucosal absorption of pharmacologically active compounds enables targeted ocular delivery, contributing to enhanced visual acuity, reduction of inflammatory responses, resolution of ocular discharges, and amelioration of symptoms such as conjunctival hyperaemia, lacrimation, and ocular discomfort.^[15]

CONCLUSION

This systematic analysis reveals the sophistication of traditional Ayurvedic ocular therapeutics, integrating herbal, mineral, and composite formulations designed for targeted eyelid delivery while generating both local and systemic effects. The kalpana exemplifies Ayurvedic innovation in combining preventive, healing, and nourishing approaches to eye wellness.

However, significant gaps exist; classical references lack documented therapeutic outcomes, standardized manufacturing protocols, chemical characterization, absorption kinetics, and safety data. Modern validation remains inadequate.

Advancing this domain requires bridging ancient pharmaceutical wisdom with contemporary science through rigorous standardization, chemical profiling, and randomized

clinical investigations. Interdisciplinary collaboration between Ayurvedic scholars, pharmaceutical scientists, and ophthalmologists can transform these formulations into evidence-based ocular therapeutics with global applicability. Systematic in-vivo and in-vitro studies are essential to substantiate traditional claims and establish clinical utility in modern eye care.

ACKNOWLEDGEMENTS

The authors are grateful to the Faculty of Shalakya Tantra at Dr. D.Y. Patil College of Ayurved and Research Centre for institutional support and access to classical Ayurvedic manuscripts. We acknowledge the valuable reference materials from Chakra Datta, Ashtang Hridaya, and related classical texts that formed the foundation of this analysis. Special thanks to our colleagues for constructive feedback during manuscript preparation.

Funding- This review received no specific grant funding from any public, commercial, or non-profit funding agencies.

Competing Interests- The authors declare no competing financial, professional, or personal interests that could bias this review.

Authors' Contributions- Dr. V. Soumiya conceptualized the review, performed the comprehensive literature search across classical Ayurvedic texts and contemporary databases, analysed formulation compositions and therapeutic mechanisms, and drafted the manuscript. Dr. Santosh Rahinj provided critical guidance on *Shalakya Tantra* (branch of Ayurveda dealing with diseases above the clavicle) principles, supervised the interpretation of traditional text references, and substantially revised the manuscript for intellectual content. Dr. Atri Ghosh contributed to the organization and synthesis of formulation data into comparative tables and ensured clinical accuracy of disease correlations. Dr. Pallavi Jagtap oversaw the entire research project, reviewed the methodology and conclusions, and approved the final version for publication.

Statement of Approval- All authors have read and approved the manuscript, met authorship requirements, and believe the work is honest.

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