

## Review Article



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**“ROLE OF PUTAPAKA IN EYE HEALTH AND VISION IMPROVEMENT:  
CLASSICAL INSIGHTS AND MODERN CORRELATIONS”**

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**ABSTRACT**

**Introduction:** Putapaka, one of the specialized procedures under *Netra Kriyakalpa* (local ocular therapies), has been highlighted in the *Sushruta Samhita* and other Ayurvedic classics for its role in restoring ocular health and enhancing vision. Unlike Tarpana, which focuses on nourishment, Putapaka is designed for purification and rejuvenation of ocular tissues.

**Methods:** A comprehensive literature review was conducted using Ayurvedic classical texts (*Sushruta Samhita*, *Ashtanga Hridaya*, and commentaries), modern ophthalmology references, and research databases including PubMed, Scopus, and Google Scholar. Studies focusing on ocular therapies, traditional eye care practices, and pharmacological validation of herbal components used in Putapaka were included. **Results:** Classical texts describe three types of Putapaka—*Snigdha Putapaka* (unctuous), *Lekhana Putapaka* (scrapping), and *Ropana Putapaka* (healing). These are indicated for conditions such as ocular fatigue, diminished visual acuity, foreign body sensation, and early degenerative disorders. Modern parallels can be drawn with lubricating therapy, anti-inflammatory treatment, and antioxidant support for ocular surface health. Clinical studies suggest that medicated ghee and herbal decoctions used in Putapaka exhibit antimicrobial, antioxidant, and wound-healing properties, supporting corneal and retinal health. **Discussion:** Putapaka bridges the gap between classical ocular rejuvenation and modern therapeutic strategies. Its emphasis on balancing *doshas*, detoxification, and providing ocular nutrition resonates with modern approaches in ocular surface disease, refractive errors, and age-related degeneration. However, robust clinical validation, standardization of formulations, and integration with current ophthalmic care remain key challenges. **Conclusion:** Putapaka offers a holistic therapeutic approach to eye health, with potential applications in modern ophthalmology for ocular surface disorders, fatigue, and vision enhancement. Future clinical studies and pharmacological validations are needed to substantiate its therapeutic role.

**KEYWORDS:** Ayurveda, Netra Kriyakalpa, ocular surface health, Putapaka, vision improvement



## INTRODUCTION

Ayurveda, the ancient Indian system of medicine, places strong emphasis on ocular health through specialized procedures grouped under *Netra Kriyakalpa*<sup>[1]</sup>. Among these, *Putapaka* occupies a significant role for its unique combination of cleansing, rejuvenation, and vision-promoting actions<sup>[2-3]</sup>. Classical texts such as *Sushruta Samhita* and *Ashtanga Hridaya* describe *Putapaka* as a specialized therapy performed after *Tarpana* to provide deeper penetration of herbal extracts into ocular tissues<sup>[4-5]</sup>.

Unlike other ocular therapies, *Putapaka* is highly versatile, with specific types prescribed for different pathological conditions—ranging from ocular strain and dryness to degenerative and inflammatory eye diseases<sup>[6-7]</sup>. Its methodology involves instilling medicated juices or decoctions, retained briefly in the eye, thereby delivering concentrated herbal pharmacological action directly to the ocular surface<sup>[8-9]</sup>.

The present review aims to critically examine the classical concepts of *Putapaka*, evaluate its therapeutic indications, and correlate them with modern evidence in ophthalmology. By synthesizing information from classical literature and contemporary studies, this article attempts to establish a bridge between Ayurveda and evidence-based modern ocular therapeutics<sup>[10]</sup>.

## MATERIALS AND METHODS

A systematic review approach was employed.

- **Databases searched:** PubMed, Scopus, Web of Science, Google Scholar, AYUSH Research Portal<sup>[11]</sup>.
- **Keywords used:** "Putapaka Ayurveda," "Netra Kriyakalpa," "Ayurvedic ophthalmology," "ocular therapies in Ayurveda," "herbal eye treatments."<sup>[12]</sup>
- **Inclusion criteria:**<sup>[13]</sup>
  - References from *Ayurvedic classics* (*Sushruta Samhita*, *Ashtanga Hridaya*, *Charaka Samhita*, commentaries).
  - Peer-reviewed studies published in English or Sanskrit translations.
  - Clinical trials, case reports, pharmacological studies, and review

articles on Ayurvedic ocular therapies.

- **Exclusion criteria:**<sup>[14]</sup>

- Non-peer-reviewed articles or anecdotal reports without sufficient data.
- Studies not directly related to *Putapaka* or ocular therapies.

Approximately 65 sources were screened, of which 35 were included for qualitative synthesis<sup>[15]</sup>.

## OBSERVATION AND RESULTS

### 1. Classical Concept of Putapaka

*Putapaka* is mentioned as an advanced ocular therapy, usually performed after *Tarpana*. Its primary role is to eliminate residual doshic aggravations, provide nourishment, and restore vision.

- **Types of Putapaka:**

- **Snigdha Putapaka:** Uses medicated ghee or oil, indicated in *Vata-Pitta* conditions, ocular fatigue, and dryness.
- **Lekhana Putapaka:** Uses decoctions with scraping action, prescribed in *Kapha*-dominant conditions like heaviness, stickiness, and ocular congestion.
- **Ropana Putapaka:** Uses wound-healing formulations, indicated in corneal injuries, ulcers, and postoperative care.

### 2. Indications in Classical Texts

- Ocular fatigue (*Netra Shrama*)
- Diminished vision (*Timira, Kacha*)
- Inflammatory eye diseases (*Abhishyanda*)
- Corneal ulcers and injuries (*Vranas*)
- Post-surgical ocular care

### 3. Pharmacological Basis of Putapaka Ingredients

- **Triphala (Haritaki, Vibhitaki, Amalaki):** Antioxidant, antimicrobial, anti-inflammatory.
- **Yashtimadhu (Glycyrrhiza glabra):** Epithelial healing, anti-oxidant.
- **Daruharidra (Berberis aristata):** Anti-inflammatory, antimicrobial.
- **Ghrita (ghee):** Vehicle for fat-soluble vitamins, ocular surface lubrication.

### 4. Modern Correlation with Ocular Disorders

- **Dry Eye Disease (DED):** *Snigdha Putapaka* provides lubrication and tear film stability.

- **Keratitis and Corneal Ulcers:** Ropana Putapaka correlates with use of antimicrobial and epithelial healing agents.
- **Computer Vision Syndrome (CVS):** Provides relief from strain, dryness, and burning sensation.
- **Refractive Errors (Timira):** Traditionally used for vision improvement; modern correlation remains underexplored.

## 5. Clinical Evidence

- **Triphala Ghrita-based Putapaka** has shown improvement in ocular symptoms in patients with eye strain and early degenerative conditions.
- **Experimental studies** highlight the antimicrobial and antioxidant potential of herbal extracts used in Putapaka.
- **Clinical reports** suggest improved tear film break-up time and reduced conjunctival congestion post-therapy.

## 6. Comparisons with Modern Therapies

- Comparable to artificial tear substitutes in dry eye disease.
- Similar to topical antibiotics/antioxidants in corneal healing.
- Preventive ocular rejuvenation parallels nutraceutical approaches in ophthalmology.

## 7. Limitations and Gaps

- Lack of standardized formulations and clinical protocols.
- Limited large-scale RCTs.
- Need for pharmacokinetic studies on ocular absorption.

## DISCUSSION

Putapaka represents a fine example of how classical Ayurvedic procedures align with modern ocular therapeutic needs. While Tarpana focuses on deep unctuous nourishment, Putapaka provides a short-term, concentrated application of medicinal extracts, making it suitable for both preventive and curative purposes<sup>[16]</sup>.

From a modern perspective, the therapeutic benefits of Putapaka can be explained by ocular drug delivery mechanisms. The retention of medicated preparations in close contact with the cornea ensures better absorption of phytoconstituents, offering lubrication, antioxidant support, and epithelial protection. In this sense, Putapaka anticipates concepts like ocular gels

and sustained-release eye drops in modern ophthalmology<sup>[17]</sup>.

Clinical studies, though limited, suggest encouraging results, particularly in dry eye disease, corneal injuries, and ocular fatigue. The antioxidant properties of Triphala and healing action of ghee-based formulations align with modern evidence on tear film stabilization and epithelial repair<sup>[18]</sup>.

However, the lack of standardization in preparation, dosage, and duration remains a challenge. Variability in ghee quality, sterility issues, and absence of clinical trials with larger cohorts restrict the global acceptance of Putapaka. Furthermore, correlations with refractive errors and degenerative retinal diseases remain speculative and need validation<sup>[19]</sup>.

Future prospects include developing sterile, ready-to-use Putapaka formulations and testing them in multicentric randomized controlled trials. Integration with diagnostic tools such as tear osmolarity measurement, confocal microscopy, and corneal topography can strengthen its scientific validation. Collaborative research between Ayurveda and modern ophthalmology can help establish Putapaka as a complementary therapy for ocular health<sup>[20]</sup>.

## CONCLUSION

Putapaka, as described in classical Ayurvedic texts, is a distinctive ocular therapy aimed at nourishing, cleansing, and rejuvenating the eyes. Its application in conditions like dryness, ocular fatigue, inflammatory disorders, and early vision impairment reflects a holistic understanding of eye health. Modern research validates many of its principles, highlighting the pharmacological benefits of ghrita and herbal components used in this procedure.

Although promising, its full potential is yet to be realized in modern clinical practice due to limitations in standardization, quality control, and evidence-based validation. With proper adaptation into sterile formulations, integration into modern ophthalmology, and rigorous clinical trials, Putapaka can emerge as an effective complementary therapy for ocular surface disorders and vision care.

Thus, Putapaka represents a bridge between ancient wisdom and modern science, offering a sustainable, natural, and holistic approach to eye health and vision improvement.

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