Review Article

A Review on the Formulations and its Therapeutic Aspects of Varma Kalikkam in Varma Medicine

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ABSTRACT

Introduction: Varma Kalikkam (Eye Drops), is a form of ophthalmic application used in varma medicine mainly to treat the ailments that occur due to varmam. According to varma concept, the right eye and left eye belongs to Purudan, Kanthaari naadi (channels) and controlled by the vayu Nagan, Samanan respectively. Varma Kalikkam plays a vital role in altering the derangements of these Naadi and Vayu caused by Varmam. Varma kalikkam is prepared by mixing juices of some medicinal herbs with honey or grinding some dried medicinal herbs with herbal juices.It is used to treat conditions like Varma Mayakkam, Kanmani Varma Kuttram, seizures, delirium and vision problems. Combined with Varma therapy, it enhances healing and reflects a holistic approach of Siddha medicine.

Objective: This study explored the formulations and therapeutic aspect of Varma Kalikkam.

Methods: Data were collected from various Siddha Varma literature such as Varma Angathi Patha Nool, Varma Nool Maruthuvam.

Result: This study revealed the formulations and its therapeutic values of Varma Kalikkam.

Conclusion: The study highlights that Varma Kalikkam act as natural, cost-effective medicine. Further empirical studies are needed to validate its therapeutic efficacy.

Keywords: Varma Kalikkam, Varma medicine, Siddha, Tradition.

INTRODUCTION

Varma Kalikkam (eye drops) is a form of ophthalmic application used in Varma medicine, mainly to treat ailments that occur due to Varmam[1]. According to the Varma concept, the right eye and left eye belong to Purudan and Kanthaari Naadi (channels), and are controlled by Vayu Nagan and Samanan, respectively.

Varma Kalikkam plays a vital role in correcting the derangements of these Naadi and Vayu caused by Varmam. According to the book *External Therapies of Siddha Medicine*, the eye is a very important route for the administration of medicine to revive an unconscious patient, and to treat delirium and diseases of the central nervous system[2]. The anatomy and vasculature of the eye are such that any drug applied to it gains ready access to the brain and enters the circulation readily.

Varma Kalikkam is prepared by mixing the juices of certain medicinal herbs with honey or by grinding dried medicinal herbs with herbal juices. These medicines possess anti-bacterial, astringent, wound-healing, and anti-inflammatory properties[3]. They are used to treat conditions such as Varma Mayakkam, Kanmani Varma Kuttram, seizures, delirium, and vision problems. When combined with Varma Therapy, it enhances healing and reflects the holistic approach of Siddha medicine[4].

After the administration of eye drops, the drug reaches the intraocular tissues mainly via the corneal/conjunctival–scleral route[5] (Figure 1).

Absorption Mechanism of Eye drops

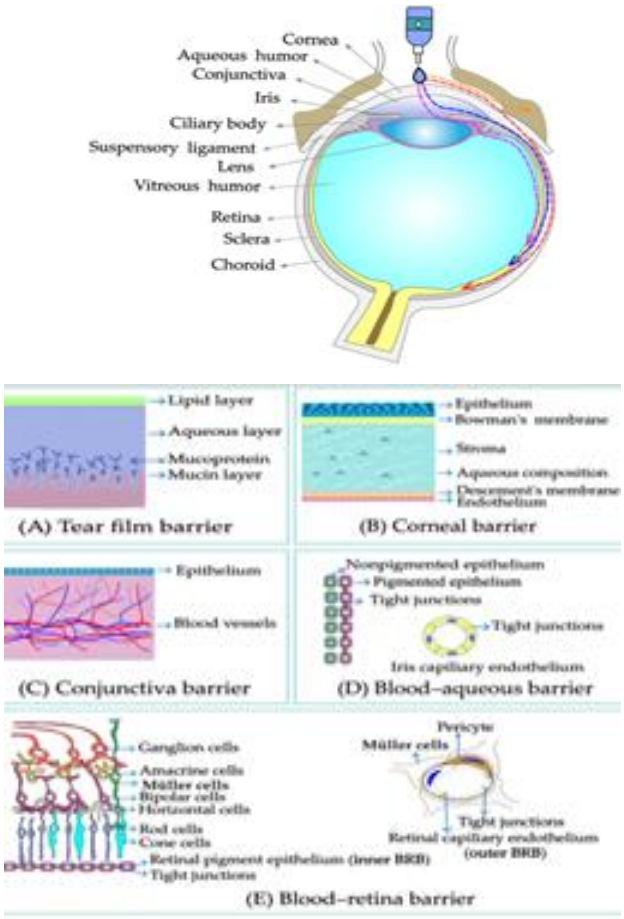

Figure 1

These absorption routes are influenced by the physicochemical properties of the drug, the form of administration, and the physiological structure and barriers of the eye[5].

The corneal route is the primary pathway for topical drug delivery. When the drug is instilled onto the surface of the eye, it reaches the corneal epithelium through two pathways: the paracellular route for hydrophilic drugs and the transcellular route for lipophilic drugs, and then enters the anterior chamber[5]. Once the drug crosses the cornea and reaches the anterior chamber, it is distributed to surrounding tissues such as the lens, iris, and ciliary body.

At this stage, there are two main pathways through which the drug can reach the posterior segment of the eye:

Direct diffusion to the tissues of the vitreous, retina, choroid, and sclera via the transvitreal route, and Drainage to the posterior segment via the uveal–scleral pathway.

Objective:

This study explores the formulations and therapeutic aspects of Varma Kalikkam.

Methods:

Data were collected from various Siddha Varma literature sources such as Varma Angaathi Patha Nool and Varma Nool Maruthuvam

Result:

A list of all the ingredients used in various preparations of Varma Kalikkam is given below:

1. Kalmoongil
2. Milagu
3. Thumbai
4. Thuvaram Paruppu
5. Vetrilai
6. Vengayam
7. Veliparuthi

The Tamil name, botanical name, English name, and therapeutic actions of all the ingredients are mentioned in Table 1.

Table 1: Ingredients of Varma Kalikkam

S.No	Tamil Name	Botanical Name	English Name	Actions
1.	Milagu	*Piper nigrum*[5,6]	Black Pepper	Stimulant, Expectorant, Carminative
2.	Thumbai	*Leucas aspera*[7,8]	White Dandelion/Thumbe	Expectorant, Febrifuge, Vermifuge
3.	Vetrilai	*Piper betle*[9]	Betel Leaf	Digestive, Carminative, Stimulant
4.	Veliparuthi	*Pergularia daemia*[10,11]	Whitelow Plant/ Dog's Bane	Galactagogue, Anti-ulcer, Diuretic
5.	Kalmoongil	*Dendrocalamus strictus*[12,13]	Male Bamboo/Solid Bamboo	Absorbent, Detoxifier, Anti-diarrheal
6.	Thuvaram Paruppu	*Cajanus cajan*[14]	Pigeon Pea/Red Gram	Nutritive, Digestive, Mild laxative
7.	Vengayam	*Allium cepa*[15,16]	Onion	Expectorant, Digestive, Anti-inflammatory

Table 2: Synonyms, Parts used and Taste of all the ingredients.

S.No	Ingredients	Synonyms	Parts used	Taste
1.	KALMOONGIL	-	Charcoal, Ash	Astringent, Sweet
2.	MILAGU	Sulinai, kari, kaayam, kolagam, thirangal, miriyal. (Sarumabandham,vallisam, maasam, kurumilagu, malayali)	Fruit	Pungent
3.	THUMBAI	-	Whole plant	Bitter, Astringent
4.	THUVARAM PARUPPU	Aadagi,Kaatchi, Aadagam, Thorai, Suraattam, Mruthaalaga, Mruthanam,Yavai	Seed (Pulse)	Astringent
5.	VETRILAI	Vellilai, thaambootham, thaamboothavalli, thiraiyal, naagavalli, mellilai, vellilai ,melladagu	Leaf	Pungent, Astringent
6.	VENGAYAM	Eerulli, ulli, eeravulli, eeravengayam, kaayam, sukiranthamum, nichchiyamum,	Bulb	Pungent, Sweet
7.	VELIPARUTHI	Veliparuthi, uththamakaani, uththamakannigai	Leaf, Root	Bitter

Table 3: Taxonomy of all the ingredients.

KALMOONGIL	MILAGU	THUMBAI
Kingdom: Plantae Phylum: Streptophyta Class: Equisetopsida Subclass: Magnoliidae Order: Poales Family: Poaceae Genus: Dendrocalamus Species: strictus 	Kingdom: Plantae Subkingdom: Tracheobionta Superdivision: Spermatophyte Division: Magnoliophyta Class: Magnoliopsida Subclass: Magnoliidae Order: Piperales Family: Piperaceae Genus: Piper Species: nigrum 	Kingdom: Plantae Subkingdom: Tracheobionta Superdivision: Spermatophyte Division: Angiosperma Class: Dicotyledonae Subclass: Gamopetalae Order: Tubiflorae Family: Lamiaceae Genus: Leucas Species: aspera 

THUVARAI	VETRILAI	VENGAYAM	VELIPARUTHI
Kingdom: Plantae Phylim: Magnoliophyta Class: Equisetopsida Subclass: Magnoliidae Order: Fabales Family: Fabaceae Genus: Cajanus Species: cajan 	Kingdom: Plantae Subkingdom: Tracheobionta Superdivision: Spermatophyte Division: Magnoliophyta Class: Magnoliopsida Subclass: Magnoliidae Order: Piperales Family: Piperaceae Genus: Piper Species:betle 	Kingdom: Plantae Phylum: Magnoliophyta Class: Liliopsida Order: Asparagales Family: Amaryllidaceae Genus: Allium Species: cepa 	Kingdom: Plantae Phylum: Tracheophyta Class: Magnoliopsida Order: Gentianales Family: Apocynaceae Genus: Pergularia Species: daemia 

Table 4: Chemical constituents and Pharmacological activity of all the ingredients.

S.No	Name	Botanical Name	Parts used	Phytochemical Properties	Pharmacological Activity
1.	Milagu	*Piper nigrum*[5,6]	Seed	Piperine, Volatile oils & Sabinene, 3- carene,D-limonene, 2-pinenePhenolic compounds, flavonoids, terpenoids.	Antimicrobial Antioxidant Anti-inflammatory Antidepressant Antihypertensive
2.	Thumbai	*Leucas aspera*[7,8]	Leaves	Saponins, alkaloids, steroids, flavonoids, terpenoide,	Antimicrobial Antioxidant Anti-inflammatory Antipyretic
3.	Vetrillai	*Piper betle*[9]	Leaves	Alkaloids, tannis, saponins, flavonoids, Polyphenols.	Antimicrobial Antioxidant Anti-inflammatory Immunomodulatory

4.	Veliparuthi	*Pergularia daemia*[10,11]	Leaves	Saponins, Alkaloids, Flavonoids,Glycosides, Steroide, Tannis	Antimicrobial Antioxidant Anti-inflammatory
5.	KalMoongil	*Dendrocalamus strictus*[12,13]	Leaves		Antimicrobial Antioxidant
6.	Thuvaram Paruppu	*Cajanus cajan*[14]	Seed	Cajanin, orientin, vitexin, cajaninstilbene acid, cajanuslactone, phenolic acid	Antimicrobial Antioxidant Antihypertensive
7.	Onion	*Allium cepa*[15,16]	Bulb	Flavonoids, Sulfur compound,Phenolic Acid.	Antimicrobial Antioxidant Anti-inflammatory

Table 5: Chemical Constituents of All the Ingredients

S.No	Ingredients	Chemical constituents
1.	Milagu (*Piper nigrum*)[5,6]	Piperine, Chavicine
2.	Thumbai (*Leucas aspera*)[7,8]	Diterpenes, Flavonoids
3.	Vetrilai (*Piper betle*)[9]	Eugenol, Tannins
4.	Veliparuthi (*Pergularia daemia*)[10,11]	Alkaloids, Steroids
5.	Kalmoongil (*Dendrocalamus strictus*)[12,13]	Carbon, Minerals
6.	Thuvaram paruppu (*Cajanus cajan*)[14]	Proteins, Iron, Folic acid
7.	Vengayam (*Allium cepa*)[15,16]	Quercetin, Sulfur compounds

VARMA KALIKKAM PREPARATION

PREPARATION 1: MILAGU KALIKKAM.

S.No	Ingredients	Quantity
1.	Milagu (*Piper nigrum*)[5,6]	As per need
2.	Vetrilai (*Piper betle*)[9]	As per need

Method of Preparation:
Grind **Vetrilai** and extract the juice. Powder **Milagu** and mix it with the **Vetrilai** juice.

Usage:
Instill the prepared medicine as eye drops.

Indication:
Varma Mayakkam, Watery eyes.

PREPARATION 2: THUMBAI KALIKKAM.

S.No	Ingredients	Quantity
1.	Thumbai (*Leucas aspera*)[7,8]	5ml
2.	Vetrilai (*Piper beetle*)[9]	5ml
3.	Milagu (*Piper nigrum*)[5,6]	25 gram
4.	Thuvaram paruppu (*Cajanus cajan*)[14]	25 gram

Method of Preparation:

Grind Thumbai and Vetrilai, and extract the juice. Powder Milagu and Thuvaram Paruppu, then grind them with the extracted juice and form into tablets.

Indication:
Varma Mayakkam

PREPARATION. 3: VELAIPARUTHI KALIKKAM I

S.No	Ingredients	Quantity
1.	Vetrilai (*Piper betle*)[9]	As per need
2.	Kalmoongil (*Dendrocalamus strictus*)[12,13]	As per need

Method of Preparation:

Crush both ingredients and squeeze the juice directly into the eyes.

Indication:
Relieves **Varma Mayakkam.**

PREPARATION 4: VELAIPARUTHI KALIKKAM II

Ingredients	Quantity
Veliparuthi (*Pergularia daemia*)[10,11]	As per need
Kalmoongil (*Dendrocalamus strictus*)[12,13]	As per need
Milagu (*Piper nigrum*)[5,6]	As per need

Method of Preparation:
Crush all ingredients and squeeze the juice into the eyes.

Indications:
Relieves **Kann Mayakkam** and **Vaay Pottu**.

PREPARATION 5: IRULLI KALIKKAM

S.No	Ingredients	Quantity
1.	Vengayam (*Allium cepa*) [15,16]	As per need
2.	Breast Milk	As per need

Method of Preparation:

Crush small onions, extract the juice, and mix it with **breast milk**. Apply the mixture in the eyes.

Indications:
Effective for **Kann Kaayam** and **Kanmani Varma Kuttram**.

DISCUSSION

This study revealed the botanical name, synonyms, parts used, actions, taste, methods of preparations, chemical constituents, phytochemical properties, and pharmacological activities[5-9,10-16] of the formulations and their therapeutic values in Varma Kalikkam.

The study also suggests that before using eye drops, physicians should ensure that the patient is not pregnant, not breastfeeding, not wearing contact lenses, and has no known allergy to any ophthalmic medicine

CONCLUSION

Varma Kalikkam, as detailed in classical Siddha texts[1,2,3], plays a vital role in the management of conditions such as Varma Mayakkam, Kann Mayakkam, Vaaypottu, watery eyes, Kann Kaayam, and Kanmani Varma Kuttram. The formulations described in this review highlight the therapeutic synergy of various herbal ingredients, each possessing proven pharmacological actions such as anti-inflammatory, antimicrobial, and antioxidant effects[5-9,10-16].

The integration of these formulations with traditional Varma therapy exemplifies the holistic approach of Siddha medicine. However, to strengthen clinical relevance and establish scientific validation, further pharmacological evaluations and controlled clinical trials are recommended. These future studies could help standardize Varma Kalikkam formulations and facilitate their integration into evidence-based integrative ophthalmology.

In conclusion, Varma Kalikkam holds promising potential as a safe, accessible, and effective traditional ophthalmic therapy within Siddha medicine, warranting further exploration and promotion in both academic and clinical contexts.

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