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A DRUG REVIEW ON VARMAM EXTERNAL MEDICINE MURIVU ENNAI

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ABSTRACT

Murivu ennai is one of the external formulations of *varma* medicine. and used to treat *varma kaayangal* such as fracture and ligament injury. It is mentioned in the varmam literature *varma marunthu seimuraigal* and indicated for *murivugal*. This medicine includes herbal, mineral and animal properties. This review describes the medicinal use, organoleptic character, chemical constituents and pharmacological activity of the part of each ingredient used in this formulation. Ingredients of the *murivu ennai* contains the following pharmacological activities such as Anti-inflammatory, Anti-oxidant and Anti nociceptive. The details were collected from various Siddha literature and electronic databases. In conclusion, the results of the review revealed that the pharmacological activity, medicinal uses, action and the chemical constituents of the drug were matched with each ingredient of the formulation.

KEYWORDS: *Varma* medicine, Review, Siddha system, *Murivu ennai.*

1. INTRODUCTION

Siddha medicine encompasses thirty two kinds of internal and external medicines. *Thailam* or *ennai* are medicated oils listed under internal medicines with shelf life of one year according to Siddha literature. Commonly the medicated oils are used for muscular pain, sprains and fracture as topical application. Certain oils are indicated as both internal and external. The preparations of *thailam* involve many crude drugs, herbal juice extracts, decoctions and various medicines as the base material to extract the active constituents from new drugs. The base materials may be any oil like coconut oil, gingili oil, castor oil, neem oil etc., depending upon the disease as they are good vehicles.[9]

Murivu ennai is one of the important formulations of *varma maruthuvam* and used to treat *varma kaayangal* such as fracture and ligament injury. It is mentioned in the varmam literature *varma marunthu seimuraigal* and indicated for *murivugal*. This medicine includes herbal, mineral and animal properties. The aim of the present study is to evaluate the *varmam* external formulation *murivu ennai*. In this review, the ingredients of *murivu ennai* (*Kombarakku, Nallennai, Amanakkuennai, Asuvam* and *Elavanam*) were explained by its characteristic features, organoleptic character, medicinal use, action, chemical constituents and pharmacological activity in Siddha system, research data pertaining to these ingredients.

2. PREPARATION OF MURIVU ENNAI[10]

2.1 INGREDIENTS

Table No.1: Ingredients of Murivu ennai.

RAW DRUGS	BOTANICAL NAME[11]	WEIGHT	WEIGHT IN GRAMS
Nallennai	(*Sesamum indicum*)	½ *Padi*	650 ml
Aamanakuennai	(*Ricinus communis*)	½ *padi*	650ml
Asuvam	*(Withania somnifera)*	¼ *palam*	10.2g
Kombarakku	(*Carteria lacca*)	½ *palam*	20.4 g
Elavanam	(*Sodium chloride*)	1 *kalanju*	5.1g

2.2 SOURCE OF THE TRIAL DRUG

The required raw drugs for the trial medicine were purchased from a well reputed raw drug shop. The drugs were authenticated by the competent authority of Medicinal Botany and *Gunapadam* department. After that the trial drugs (external medicine) were purified separately. The trial drug was prepared in *Gunapadam* laboratory of National Institute of Siddha.

2.3 METHOD OF PREPARATION

- The raw drugs were purified and dried separately then turned into fine powder
- Mix the powdered *asuvam*, *kombarakku a*nd *elavanam* with sesame oil and castor oil.
- Boil the oil until *mezhugu patham(wax form),* then filtered the medicine.

DRUG STORAGE

The trial drug *Murivuennai was* stored in clean and dry container.

DURATION: 7 Days once.

INDICATION: *Murivugal oorum.*

REFERENCE: *Varma marundhu seimuraigal.*

3. PROPERTIES OF TRIAL DRUG

3.1 NALLENNAI

Botanical name - *Sesamum indicum*

English name - Gingeli oil

Parts used - Seed

Organoleptic character[4]

Taste - Sweet

Potency - Cold

Division - Sweet

Actions[4]

Demulcent

Nutrient

Emollient

Medicinal Uses[4]

Sesame seeds and oil applied topically or administered orally posses wound healing activity and also it strengthens the body.

Chemical constituents[6]

Sesamolin, Sesamolinol, Sesamol, Phenolics, Saponin, Flavonoids, Phytate, Tannin, Alkaloids, Oxalate.

3.2 AAMANAKKU

Botanical name - *Ricinus communis*

English name - Castor oil plant

Parts used - Seed

Organoleptic character[4]

Taste - Bitter

Potency - Hot

Division - Kaarppu

Actions[4]

Anti vatha

Galactagogue

Laxative

Emollient

Medicinal Uses[4]

Castor oil gives more strength to the body. It is used in the treatment of gastric ulcer. Effective coolent action relives eye, nose, mouth, and anal region burning sensation. Also cure leucorrhoea dysuria.

Chemical constituents[14]

Rinoleic acid, Isoricinoleic acid, Linoleic acid, Stearic acid, Isostearic acid, Palmitic acid. Terpinoids and Fatty acids.

3.3 ASUVAM

Botanical name - *Withania somnifera*

English name - Whiter cherry

Parts used - Tuber

Organoleptic character[4]

Taste - Bitter

Potency - Hot

Division - Pungent

Actions[4]

Alterative

Aphrodisiac

Deobstruent

Sedative

Diuretic

Tonic

Medicinal uses[4]

It is used in the treatment of skin diseases, pricking pain, anemia, tuberculosis, pyrexia, abscess and kaba disease.

Chemical constituents[12]

Somniferine, Somnine, Somniferinine, Isopellertierine, Withananine, Sterol lactones, Saponins.

3.4 KOMBARAKKU

Botanical name : Caterialacca

English name : Coccuslacca, Tachardialacca

Parts used : lac

Organoleptic character[3]

Taste - Astringent, Bitter

Potency - Hot

Division - Bitter

Actions[3]

Astringents

Alteraive

Medicinal uses[3]

Carteria lacca produce the lac in the branches of trees. The lac is collected and used for making jewels and to color the silk clothes. It is useful in the treatment of leprosy, TB, traumatic ulcers, body pain, phlegm, excessive menstruation and dysentery. *Kombarakku chooranam* prepared from the lac is applied over the traumatic ulcer to stop bleeding. The ulcers also heal rapidly.

Chemical constituents[13]

Resin, sugars, protein, colouring matter, wax, extraneous matter and volatile oil.

3.5 ELAVANAM

Chemical name - Sodium Chloride

Taste - salty

Smell - nil

Solubility - soluble in water insoluble in alcohol

Action[3]

Emetic

Purgative

Anthelmintic

Anti periodic

Stomachic

Medicinal uses[3]

It is used in the treatment of *pithavatha* diseases, *kaba* diseases, eight type of ulcer and liver diseases.

4. PHARMACOLOGICAL ACTIVITY OF MURIVU ENNAI

4.1 NALLENNAI

Anti-inflammatory & Antinociceptive activity[7]

Erika et al. evaluated the anti-inflammatory effect of the oil and sesamin was confirmed by a decrease in the exudates volume and in the leucocytes migration. The sesame oil and sesamin reduced the number of abdominal contortions at the doses 100, 200, or 400 mg/kg. The first and second phases of the time paw licking were inhibited by sesame oil and sesamin (100, 200, or 400 mg/kg). After 90 min of treatment, sesame oil and sesamin increased the reaction time on a hot plate (200 or 400 mg/kg). Considering the tail-immersion assay, the sesame oil and sesamin produced significant effect after 60 min at the doses of 100, 200, or 400 mg/kg. After 4 h of application of the carrageenan, the sesame oil and sesamin were effective against the paw edema. The exudates volume and leucocyte migration were also reduced by sesame oil and sesamin. These results suggest that sesamin is one of the active compounds found in sesame oil and justify the antinociceptive and anti-inflammatory properties of this product.

Antioxidant activity[15]

The total phenolic content, total antioxidant status, free radical scavenging capacity, inhibition of low density lipoprotein cholesterol and metal chelating capacity of extracts of whole black and whole white sesame seeds and their hull fractions in 80% aqueous ethanol were investigated. Results were found that Sesame products displayed good ferrous ion chelating capacities. Besides, it was demonstrated that there was a considerable antioxidant activity of sesame products especially black sesame hulls.

4.2 AAMANAKKU

Anti-inflammatory activity& Antinociceptive activity[1]

Sai H.S.Boddu et al evaluate and compare the *in vitro* and *in vivo* anti-inflammatory effects of the ricinoleic acid pluronic lecithin organogel (PLO) system with isopropyl palmitate pluronic lecithin organogel. Ketoprofen was used as a model drug. *In vitro* anti-inflammatory activity and cell viability tests were performed in human rheumatoid arthritis synovial fibroblast cell line using a blank ricinoleic acid PLO gel and compared to that of the isopropyl palmitate PLO gel. The results from the *in vitro* study showed that the blank ricinoleic acid PLO gel possessed significantly higher anti-inflammatory activity than isopropyl palmitate PLO gel at 1 mM concentration ($p < 0.05$).

Further *in vivo* testing of the formulation showed that the ricinoleic acid PLO gel formulation was significantly more effective in reducing pain and oedema when compared to the isopropyl palmitate PLO gel. In addition, the ricinoleic acid PLO gel formulation markedly inhibited the synthesis of prostaglandin E_2. It concluded that, the efficacy of pluronic lecithin organogelused in pain management enhanced by using ricinoleic acid instead of isopropyl palmitate as an oil phase.

4.3 ASUVAM

Anti-inflammatory activity[2]

Sahni, Y.P et all, evaluate the anti-inflammatory activity of withania somnifera in wistar albino rats using carrageenin-induced paw oedema method. The anti-inflammatory activity of W. somnifera was at its maximum at 2nd hour of administration and lasted for four hours during the course of observations. The sequential role of inflammatory mediators in anti-inflammatory activity of W. Somnifera is proposed through inhibition of histamine, 5-hydroxytryptamine and prostaglandins as the antagonists of these inflammatory mediators, viz promethazine, cyproheptadine and diclofenac, respectively, significantly potentiated the anti-inflammatory activity of W. somnifera. The time course of release of inflammatory mediators in the anti-inflammatory activity of W. somnifera is further proposed through inhibition of histamine and 5-HT (0–2 hours) in early phase and prostaglandins (2–4 hours) in delayed phase of inflammatory reaction in rats. This result suggests that the drug has potent anti inflammatory activity.

Adaptogenic activity[8]

The major biochemical constituents of ashwagandha from which its primary medicinal properties comes, are based upon the actions of certain steroidal alkaloids and steroidal lactones in class of constituents called withanolides. These serve as important hormone precursors in the body is able, as needed, to convert into human physiological hormones. If there is an excess of a certain hormone, the plant based hormone precursors occupy the hormone receptor sites, without converting to human hormones, to block absorption. In this way, ashwagandha, like other adaptogenic tonic herb, is amphoteric and can serve to regulate important physiological processes, increasing or decreasing as needed.

Antioxidant activity[8]

Antioxidant is a process by which free radicals are not bound with cell organelles. Generally free radicals of body are mainly bound with DNA and oxidize it. By this oxidation changes occur on DNA strand. Due to these changes that occur into the cells then these cells show different behaviour. Active compounds of Aswaganda bound these types of free radicals and then break these free radicals and eliminate these from body. Active compounds of this plant also activate and stimulate the antioxidation activity of body. Researchers from Banaras Hindu University in Varanasi, India, have discovered that some of its chemicals are powerful antioxidants. They tested these compounds for their effects on rat brain and found an increase in the levels of three natural antioxidants superoxide dismutase, catalase and glutathione peroxidase. These findings are consistent with the therapeutic use of ashwagandha as an health promoter.

5. CONCLUSION

From this review, it shows the chemical constituents, pharmacological activity, medicinal uses and its actions of each ingredients of *murivu ennai*. It will be useful for further clinical research purpose.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest in this research.

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