



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

DRUG REVIEW ON SIDDHA FORMULATION – KARAPPAN ENNAI

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Abstract: Siddha is an ancient traditional system of medicine that originated in South India. Siddha literature has described various types of skin diseases under the name of Kuttam; Karappan is one among them. In the text book of Kuzhandhai Maruthuvam (Bala Vagadam), Bala Karappan is described as one type of karappan among 18 types. The signs and symptoms of Bala Karappan are very closely associated with Atopic Dermatitis (AD). Atopic dermatitis is an ongoing skin problem that causes erythema, intense pruritis, oedema, exudation, crusting, and scaling. In many of the dermatological problems external medicines play an important role along with internal medicines. This present paper review and analyze the therapeutic value of a siddha formulation Karappan Ennai for external application which possesses Anti-microbial, Anti-inflammatory and wound healing activity for the management of Bala Karappan (Atopic Dermatitis).

Key words: Siddha formulation, Karappan ennai, Bala Karappan, Drug review

I. INTRODUCTION

Siddha medicine is a science and art of healing that deals with all aspects of an individual based on experimental knowledge. Siddhars were the foremost scholars of this medical system in ancient times. The Siddha system is connected with the principles of maintaining balance between mind and body. Skin is an important organ of communication with the external world. According to the Siddha system, skin is one of the Aimporigal(Five sense organs) that is responsible for sparisam (touch sensation). Siddha describes a variety of etiological causes of skin conditions, which are food habits, environmental factors, psychological factors, daily activities, etc. Atopic dermatitis is the most common inflammatory skin disorder, affecting up to 25% of children and 4- 7% of adolescents^[1]. Karappan Ennai is one of the Siddha formulations used externally which is mentioned in the Siddha classical literature Agasthiyar Vaithiya kaviyam 1500, indicated for Karappan. Most of the ingredients present in the formulations are known to cure skin disease. The ingredients are having Anti-inflammatory, Anti-microbial, Anti-ulcer and wound healing activities. Karappan Ennai is used externally that reduces Itching and scaling. Hence the author interested to do a thorough literature review of the ingredients present in the formulation.

Ingredients of Karappan ennai:

1. *Nannari* (*Hemidesmus indicus*)
2. *Sirukurinjan ver* (*Gymnema sylvestre*)
3. *Nilavembu ver* (*Andrographis paniculate*)
4. *Anthara thamarai ver* (*Pistia stratiotes*)
5. *Nelli mulli* (*Phyllanthus emblica*)
6. *Echuramooli* (*Aristolochia indica*)
7. *Kolunji ver* (*Teprosia purpura*)
8. *Paruthi ver* (*Gossypium herbaceum*)
9. *Peibeerku ver* (*Luffa acutangular*)
10. *Manathakali ver* (*Solanum nigrum*)
11. *Vellattu neer* (Goat urine)
12. *Veppennai* (Neem oil)
13. *Nallennai* (Gingelly oil)
14. *Thengai ennai* (Coconut oil)
15. *Pungennai* (Pungan oil)

Equal in ratio

Equal in ratio

Purification:

All the ingredients will be purified as per the siddha literature Sigicha Rathna Deepam published by ISM&H, Chennai, 2007 (edition 1)

Nannari, *Sirukurinjan ver*, *Nilavembu ver*, *Anthara thamarai ver*, *Nelli mulli*, *Echuramooli*, *Kolunji ver*, *Paruthi ver*, *Peibeerku ver*, and *Manathakali ver* will be washed with purified water and dried.

Preparation method: All ten ingredients are to be taken at 10g each, made into powder form and mixed with 1000 ml of goat urine and filtered. Then the extract is mixed with oil: 1 litre of neem oil, gingelly oil, coconut oil and pungan oil. Then the above mixture will be boiled until it comes to thylam form. Prepared medicine will be stored in a clean and dry glass container.

Table 1: Ingredients of Karappan Ennai

S.No	Ingredients	Botanical name	Parts used	Action
1	Nannari	<i>Hemidesmus indicus</i>	Root	Alterative, Tonic, Demulcent, Diuretic, Diaphoretic
2.	<i>Sirukurinjan ver</i>	<i>Gymnema sylvestre</i>	Root	Astringent, Stomachic, Tonic, Refrigerant
3.	<i>Nilavembu ver</i>	<i>Andrographis paniculate</i>	Root	Stomachic, Tonic, Alterative, Stimulant
4.	<i>Anthara thamarai ver</i>	<i>Pistia stratiotes</i>	Root	Refrigerant, Demulcent, Laxative, Emollient
5.	Nellimulli	<i>Phyllanthus emblica</i>	Dry fruit	Astringent, Refrigerant, Laxative, Diuretic
6.	<i>Echuramooli</i>	<i>Aristolochia indica</i>	Leaf, Root	Stimulant, Tonic, Emmenagogue
7.	<i>Kolunji ver</i>	<i>Teprosia purpura</i>	Root	Tonic, Laxative, Diuretics, Deobstruent
8.	<i>Paruthi ver</i>	<i>Gossypium herbaceum</i>	Root	Demulcent, Diuretic, Emmenagogue, Astringent, Tonic, Laxative, Expectorant, Aphrodisiac
9	<i>Peibeerku ver</i>	<i>Luffa acutangular</i>	Root	Demulcent, Diuretic, Nutrient, Purgative, Emetic
10.	<i>Manathakkali ver</i>	<i>Solanum nigrum</i>	Root	Alterative, Diuretic, Diaphoretic, Expectorant
11	<i>Vellattu neer</i>	Goat urine	-	-
12	<i>Veppennai</i>	<i>Azadiracta indica</i> (Neem oil)	Oil	Stimulant, Anthelmintic, Discutient

13	Nallennai	Sesamum indicum (Gingelly oil)	Oil	Demulcent, Emollient
14	Thengai ennai	Cocus nucifera (Coconut oil)	Oil	Nutrient, Diuretic, Refrigerant, Aperient
15	Pungennai	Pongamia pinnata (Pungan oil)	Oil	Astringent, Alterative, Parasiticide, Antiseptic, Stimulant

Table 2: Pharmacological action and phytochemical constituents of ingredients of Karappan Ennai
Various siddha literature and published articles were referred to know about the pharmacological action and phytochemical constituents of ingredients of Karappan ennai related to Bala Karappan (atopic dermatitis).

Ingredients	Pharmacological activity	Phytochemicals
Nannari (Hemidesmus indicus)	Antimicrobial, Anti-inflammatory, Anti ulcerogenic, Anti carcinogenic ^[2]	Essential oil, Triterpenoids, Alkaloids, Tannins, Phenols, Saponins, Flavonoids, Coumarins, Sitosterol, Hemidesmine, Emidine, Rutin ^[2]
Sirukurinjan ver (Gymnema sylvestre)	Anti-microbial, Anti-inflammatory, Anti diabetic, Hypo lipidemic ^[3]	Gymnemic acids, Gymnemasaponins, polypeptide, Gurmarin, Stigmasterol, d-quercitol, Gymnemanol, Gymnemosides ^[4]
Nilavembu ver (Andrographis paniculate)	Anti-microbial, Anti-inflammatory, Antibacterial, Immunomodulatory, Antiviral, Antioxidant ^[5]	Diterpines, Lactones, Flavonoids, Quinic acid, Xanthines, noriridoids ^[5] ⁵³
Anthara thamarai ver (Pistia stratiotes)	Antifungal, Antimicrobial, Antidermatophytic, Antibacterial, Antioxidant, Antidiabetic, Diuretic, Wound healing ^[6-7]	Alkaloids, Glycosides, Flavonoids, Steroids, Stigmasterol, Palmitic acid, Vitexin, Vitamin A& C, Stigma-steryl, Vicenin ^[6-7]
Nellimulli (Pyllanthus emblica)	Antimicrobial, Antioxidant, Anti-inflammatory, Anti ulcerogenic, Analgesic, Antitumou ^[8]	Terpenoids, Flavonoids, Alkaloids, Tanins, Phyllembilin, Quercitin, Pectin, Vitamin C, Ellagic acid, Lupeol, Gallic acid ^[9]
Echuramooli (Aristolochia indica)	Antimicrobial, Anti-inflammatory, Antivenom, Anti pruritic, Anti parasitic, Antibacterial ^[10]	Aristolochic acid, Iso aristolochic acid, Allantoin, Ishwarol, Ishwarone, b-Sitosterol, d-Camphor, Ceryl alcohol, Methyl aristolochate, Aristolic acid ^[11] .
Kolunji ver (Tephrosia purpura)	Antimicrobial, Antibacterial, Wound healing, Anti-cancer, Hypo glyceemic ^[12]	Glycosides, rotenoids, isoflavones, flavanones, chalcones, flavanols, sterols, Tetradecane, Pentadecane, Tetradecanic acid, Hexanoic acid, Tridecanoic acid ^[12-13]
Paruthi ver (Gossypium herbaceum)	Wound healing, Antibacterial, Antiviral, Antioxidant, Antiulcer, Anti-tumour ^[14]	Flavonoids, Tannins, Carbohydrates, Saponins, Steroids, Terpenoids, Glycosides, Resins, Phenols, Proteins, Starch, Calcium, Mucilage ^[15]
Peibeerku ver (Luffa acutangular)	Antimicrobial, Antiparasitic, Anti-inflammatory, Analgesic, Antioxidant, Immunomodulatory,	Tannin, Saponin, Anthro quinone, Sterols, Glycosides, Carbohydrates, Reducing sugar, Flavonoids, Phenolic compounds, quinines, lignins, cucurbitacins, triterpenes ^[16]

	Anticancer ^[16]	
Manathakkali ver (Solanum nigrum)	Anti-tumour, Anti-ulcer, Antioxidant, Anticonvulsant ^[17]	Alkaloids, Flavonoids, Tannins, Saponins, Glycosides, Proteins, Carbohydrates, Coumarins, Phytosterols ^[17]
Vellatu neer (Goat's urine)	Antimicrobial, Antibacterial ^[18-19]	Urea nitrogen, Total nitrogen, Phenols, p-Ethyl phenyl sulphuric acid, Calcium, Coproporphyrin, Creatinine, Magnesium, Potassium, Sodium, Sulphate, Uric acid, Uroporphyrin ^[18]
Veppenai – Neem oil (Azadiracta indica)	Anti-inflammatory, Antipyretic, Antimicrobial, Antiviral, Antioxidant, Antifungal, Antibacterial, Spermicidal ^[20-21]	Nimbidin, Nimbin, Nimbolide, Tannins, Sodium nimbidate, Gedunine, Azadirachtin, Mahmoodin, Gallic acid, Polysaccharides, Margolone, Margolonone, Cyclic trisulphide ^[21]
Nallennai – Gingelly oil (Sesamum indicum)	Antioxidant, Antifungal, Wound healing, Anti cancerous, Anti- inflammatory, Antimicrobial, Nephroprotective, Profertility ^[22]	Lignans, Polyphenols, Phytosterols, Phenols, Anthroquinones, Naphthoquinonones, Triterpenes, Cerebroside, Fatty acids, Vitamins, Proteins, Amino acids, Sugars, Sesamin, Sesamolin ^[22]
Thengai ennai – Coconut oil (Coccus nucifera)	Antibacterial, Antifungal, Antiparasitic, Antidermatophytic, Antioxidant, Immunostimulant, Hepatoprotective, Anti- inflammatory ^[23]	Tannins, Saponins, Flavonoids, Triterpenes, Phenols, Catechins, Epicatechins, Lauric acid, Tocopherol, Alkaloids, Vitamin C, L-arginine, Skimmiwallin, Lupeol-methylether ^[24]
Pungennai – Pungan oil (Pongamia pinnata)	Anti-inflammatory, Antioxidant, Antibacterial, Anti plasmodial, Anti diarrhoeal ^[25]	Flavonoids, Galactoside, Stigmasterol, Oleic acid, Stearic and palmitic acid, Karangin, Pongamol, Pinnatin, Pongaglabrone, Glabrachalcone, Pongone, Galbone ^[26]

CONCLUSION

The Karappan Ennai is effectively used as an external medicine for the management of Bala Karappan (Atopic dermatitis). All the ingredients of the Karappan Ennai possesses anti-inflammatory, Anti-microbial, Antiulcer and Wound healing activity that reduces erythema, itching and scaling. Therefore, the formulation could be very effective in the management of Bala Karappan (Atopic dermatitis). The raw drugs are easily available and easy to prepare. In-depth scientific research studies have to be carried out to explore the medicine further.

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