



**ORIGINAL RESEARCH PAPER**

**Ayurveda**

**A DRUG REVIEW ON PARANGICHAKKAI CHOORANAM OR BALAKARAPPAN (ATOPIC DERMATITIS)**

**KEY WORDS:** Eczema, Balakarappan, Parangichakkai chooranam, Siddha system.

<b>Dr. S. Kalaivani*</b>	Third year PG Scholar, Department of Kuzhandhai Maruthuvam, National Institute of Siddha, Tambaram sanatorium, Chennai -47. *Corresponding Author
<b>Dr. M. Meenakshi Sundaram</b>	Professor and Head of the Department, Department of Kuzhandhai Maruthuvam, National Institute of Siddha, Tambaram sanatorium, Chennai-47.
<b>Dr. R. Meenakumari</b>	Director, National Institute of Siddha, Tambaram sanatorium, Chennai-47

**ABSTRACT** The phytochemical and pharmacological activity of the Siddha preparation of Parangichakkai chooranam being used for skin diseases especially in karappan (eczema). Atopic dermatitis, also known as atopic eczema, is a long-term type of inflammation of the skin. It is a common allergic skin disease that usually start in early childhood. The present review was carried to different activities of each ingredient of Parangichakkai chooranam. It is one of safe and efficacious medicines used traditionally for the treatment of various ailments. The review describes various facets like active constitutions, pharmacological properties of its individual ingredients. The pharmacological common activity of Parangichakkai chooranam showed antimicrobial, anti-inflammatory, antifungal, antioxidant, anti-bacterial, immunomodulatory, antihistamine, anti-allergic and wound healing activity.

**INTRODUCTION:**

Siddha system is an ancient system of medicine and is originating from South India. The siddhars laid the foundation for this system of medicine. Herbal based traditional remedies are highly recommended by World Health Organization because of their safety, easy availability, low cost treatment of various diseases. Atopic dermatitis (AD) also called atopic eczema is a common chronic or recurrent

inflammatory skin disease and affects 15-20% of children and 1-3% of adult worldwide [9]. According to Siddha system of Medicine, the diseases are classified into 4448 in numbers. Siddha system, categorizes karappan diseases into 18 types, which is explained in Siddha literature Kuzhnadhai Maruthuvam-Balavagadam. One among them is Balakarappan that can be correlated with atopic dermatitis.

**MATERIALS AND METHODS**

**INGREDIENTS OF PARANGICHAKKAI CHOORANAM<sup>[1]</sup>:**

S.NO	PLANTS	BOTANICAL NAME	FAMILY	PARTSUSED [4]	DOSE
1	Parangichakkai	Smilax china	Liliaceae	Root	105gm
2	Sukku	Zingiber officinale	Zingiberaceae	Dried rhizome	12.6gm
3	Thippili	Piper longum	Piperaceae	Fruit and root	12.6gm
4	Elam	Elettaria cardamomum	Zingiberaceae	Seed	12.6gm
5	Vaavilangam	Embelia ribes	Myrsinaceae	Fruit	12.6gm
6	Sannalavangappattai	Cinnamomum verum	Lauraceae	Bark	12.6gm
7	Omam	Carum copiticum	Apiacea	Fruit	12.6gm
8	Kurosani omam	Hyoscyamus niger	Solanaceae	Seed	12.6gm
9	Chitramoola verpattai	Plumbago zeylanica	Plumbaginaceae	Root	12.6gm
10	Chitrarathai	Alpinia officinarum	Zingiberaceae	Rhizome	12.6gm
11	Thippiliver	Piper longum	Piperaceae	Root	12.6gm
12	Perarathai	Alpinia galangal	Zingiberaceae	Rhizome	12.6gm
13	Sirutheku	Clerodendrum serratum	Verbenaceae	Root	12.6gm
14	Dhaniya	Coriandrum sativum	Apiaceae	Fruit	12.6gm
15	Seeragam	Cuminum cyminum	Apiaceae	Fruit	12.6gm
16	Karunjeeragam	Nigella sativa	Ranunculaceae	Seed	12.6gm
17	Adhimaduram	Glycyrrhiza glabra	Fabaceae	Root	12.6gm
18	Vetiver	Vetiveria zizanioides	Poaceae	Root	12.6gm
19	Vilamichuver	Plectranthus vettiveroides	Poaceae	Root	12.6gm
20	Muthakasu	Cyperus rotundus	Cyperaceae	Tuber	12.6gm
21	Kichilikizhangu	Kaempferia galangal	Zingiberaceae	Rhizome	12.6gm

**METHOD OF PREPARATION**

All the above ingredients are purified as per book Sarakku suthi muraigal<sup>[2]</sup> and are grinded separately as fine powder. Then the powder is mixed together with equal amount of white sugar. Prepared medicine is stored in clean and dry glass container.

**DOSAGE:** 5-6 years - 1.3 gm  
7- 12 years - 2 gm, Twice a day, after food  
Vehicle: Ghee

**DURATION OF TREATMENT:** 45 days

S.NO	BOTANICAL NAME	PHYTOCHEMICALS	PHARMACOLOGICAL ACTIVITY
1	Smilax china	Saponin, smilax saponin, acylarginine, smilacin, diosgenin [7].	Anti-inflammatory, antioxidant, anti-microbial [5][6].
2	Zingiber officinale	Gingerol, Zingerone, 10 -gingerol, 6-shogaol, shogaol [8].	Anti-inflammatory and anti-microbial, antioxidant [8].
3	Piper longum	Piperine, Piplartine, Sesamine 5-trimethoxycinnamate, Asarine, Pipericide Piper longuminine [26].	Anti-inflammatory, anti-fungal, immunomodulatory, antiulcer activity [9].
4	Elettaria cardamomum	Alpha -pinene, Sabinene Alpha -terpinyl acetate, Alpha-terpineol, Linalool[27].	Anti-inflammatory, anti-microbial, anthelmintic, allergic activity [10].
5	Embelia ribes	Embelia, Embelinol, Embeliaribyl ester, Tannin Embeliol, Vilangin[28].	Anti-bacterial, antioxidant, anti-fungal, anthelmintic, wound healing activity [11].
6	Cinnamomum verum	E-Cinnamyl acetate, Beta -pinene, Eugenol, Camphor, Cinnamaldehyde Terpinolene [29].	Anti-inflammatory, anti-microbial, anti-allergic, anti-bacterial [12].
7	Carum copiticum	Tannin, saponins, terpinene, - pinene, p-cymene [13].	Anti-fungal, anti-microbial, anthelmintic, antitoxic activity [13].
8	Hyoscyamus niger	Hyoscyamine, Scopolamine Belladonnine, Hyoscyamilactol, Atropine, Hyoscyamide[18].	Anti-inflammatory, anticonvulsant activity [18].
9	Plumbago zeylanica	Plumbagin, Zeylinone Isozeylinone, Chloroplumbagin, Sitosterol [30].	Anti-inflammatory, anti-bacterial, anti-allergic, anti-viral [15].
10	Alpinia officinarum	Benzylacetone, 17 diphenyl-5 hydroxy -3 heptanone, Guaiacylacetone, Benzenepropanal [25].	Anti-bacterial, anti-fungal, anti-viral, immune modulatory [25].
11	Piper longum	Alkaloids, Tannin, Piper longuminine, Trimethoxy Piperine.	Anti-inflammatory, anti-fungal, immunomodulatory, antiulcer activity[9].
12	Alpinia galangal	Galangin, Chavicol, Galamolactone, Cinnamate[25].	Anti-bacterial, anti-inflammatory [25].
13	Clerodendrum serratum	Carbohydrates, Phenolics Flavanoids, Terpenoids Cleroflavone, Apigenin [31].	Anti-inflammatory, anti-bacterial, anti-fungal, antioxidant [14].
14	Coriandrum sativum	Terpinolene, Alpha terpinene Sabinene, Tannin, Methyl 5- nonenol, Acetone, Ethanol [32].	Anti-inflammatory, anti-fungal, anti-bacterial, anthelmintic [16].
15	Cuminum cyminum	Flavanoids, Glycosides Limonene, Safranin Alpha and beta pinene, Gama terpinene [33].	Anti-inflammatory, anti-microbial, anti-fungal, immunologic activity [17].
16	Nigella sativa	Thymoquinone, Thymohydroquinone, Dithymoquinone, Nigellidine, Nigellidine Thymol [9].	Anti-inflammatory, anti-fungal, anti-bacterial, anti-allergic, anti-histamine, anthelmintic [19].
17	Glycyrrhiza glabra	Ethanol, Alpha terpinol, Methyl charvicol, Glatoridin, Glyzarin, Glycyrritol, Tannin [34].	Anti-inflammatory, antiviral, antioxidant, immunomodulatory activity [20].
18	Vetiveria zizanioides	Vetivene, Vetivenate, Terpinen -4-ol, 5- epiperzane, Valerenol[35].	Anti-inflammatory, anti-fungal, anti-bacterial [21].
19	Plectranthus vettiveroides	Aminoacid, Phenolic, Tannin, Alpha bisabolol, Caryophyllene, 1-Napthalenol, z-valerenyl acetate [36].	Anti-microbial, antioxidant [24].
20	Cyperus rotundus	Rotundane, Guaiane, Flavanoids, Saponin, Cyperene, Alpha- longipinane [37].	Anti-inflammatory, anti-microbial, anti-bacterial, antioxidant, wound healing activity [22].
21	Kaempferia galangal	Pentadecane, Isopropylcinnamate, 1,8, Cineol, Camphidine, Bipentate dioxide, Alpha pinene [38].	Anti-microbial, anti-inflammatory, anthelmintic [23].

**DISCUSSION AND CONCLUSION:**

Siddha system of medicines are being practiced by a large population in South India. The development of this traditional system of medicine with perspectives of safety, efficacy and quality will help not only to preserve the traditional heritage but also to rationalize the use of natural products in health care. Plants serve as vast source for varied phytoconstituents exhibiting Pharmacological property. The ingredients of Parangichakkai chooranam having anti-inflammatory, antimicrobial, antibacterial, antifungal, antihistamine, antiallergic, antiviral, immunomodulatory. Activity our finding demonstrates that Parangichakkai chooranam drastically reduce the erythematous, inflammation and skin disorders. The smilax china is extensively studied for its pharmacological activities of anti-inflammatory, antimicrobial, antioxidant activity, then roots of the plant is used to treat Eczema and other skin related infections conditions like psoriasis, pimples, leprosy and chronic skin disorders. Piper longum, Cumin cyminum, Glycyrrhiza glabra possess immune modulator effect which helps to regulate the immune system. Zingiber officinale has antioxidant for human skin cell growth and migration enhance with potential to be wound repair agent. Embelia ribes and Cyperus rotundus having wound healing property which helps to prevent allergy reaction on destruction of skin. Elettaria cardamomum, Cinnamomum verum, Carum copiticum, Kaempferia galangal possess antimicrobial and anti-inflammatory activity these plants reported to be used in the treatment of skin disorders. Our findings suggest that, Siddha herbal preparations have great potential as anti-inflammatory and antimicrobial agent against many enteric pathogens. Thus, these herbal preparations can be used to control or prevent the bacterial infection. It is useful in the treatment of Balakarappan (atopic dermatitis).

**REFERENCE:**

1. Kannuswami pillai text book of Schiticha Ratna Deepam publication 2007, page no-116
2. Aanaivarianand text book of sarakku suthi muraigal publication 2008.
3. Kannuswami pillai text book of Schiticha ratna deepam and muraigal publication 2007, pg no-(28,29,30,31,32,33)
4. Murugesu Mudhaliyar text book Cunapadam Mooligai (part 1) published by Indian system of medicine and Homeopathy, 1st edition, 1936.
5. Sabarisenthil B and Kalaichelvan VK, A review on pharmacological activities of Smilax china, International journal of chemical and pharmaceutical sciences vol.8(1) mar, 2017.
6. Hye -kyung Seo, Jong -Hwa Lee, Seung-Cheol Lee, Antioxidant and antimicrobial activities of smilax china L. leaf extracts, 31 December 2012.
7. Sivaranjani Kumarasamy1\*, Manickavasakan Kumarasamy2, A conspectus Siddha polyherbal formulation: Parangichakkai chooranam, International journal of research and Ayurveda pharm, 5(2), March- April, 2014.
8. Rajesh Kumar Mishra, Anil Kumar and Ashok Kumar, Pharmacological activity of Zingiber officinale, International journal of pharmaceutical and chemical science vol.1(3), July -Sep, 2012.
9. Ajeet Singh\* and Navneet, Critical review on various ethnomedicinal and Pharmacological aspects of piper longum Linn, vol 48-60, August 2018.
10. Mehijabeen1\*, Mansoor Ahmad2, Noorjahan3, Farah-Saeed4, Asif Bin Rehman5, The role of Elettaria cardamomum(L) Maton in inflammatory, Gastrointestinal and stress disorders, 4(6):302-305, 2015.
11. Srinath Ambati\*, Jyothi.V, Asha Jyothi.V, Pharmacological, Pharmacognostic and Phytochemical review of Embelia ribes, International journal of pharmacy and technology vol.2, November, 2020.
12. Meena Vangalapati\*, Sree Satya N, Surya Prakash DV, Sumanjali Avaniigadda, A review on Pharmacological Activities and Clinical effects of Cinnamon Species, Journal of Pharmaceutical, Biological and chemical sciences, vol.3, January-March, 2012.
13. Mohammad Hossein Boskabady1, Saeed Alitaneh2, and Azam Alavinezhad1, Carum copiticum L: A herbal medicine with various Pharmacological effects, 25 June 2014.
14. Poornima BS, Prakash L Hegde, Pradeep, Harini A, Pharmacological review on Clerodendrum serratum, Journal of Pharmacognosy and Phytochemistry, 3(5): 126-130, 2015.
15. Vishnukanta\* and A. C. Rana, Plumbago zeylanica: A Phytopharmacological review, International journal of pharmaceutical science and research, pg no 247-255, February, 2011.
16. Prof Dr Ali Esmail AL-Snafi, A review on chemical constituents and Pharmacological activities of Coriandrum sativum, Journal of Pharmacy, vol.6, 3(July 2016).
17. Prof Dr Ali Esmail AL- Snafi, The Pharmacological activities of Cuminum cyminum - A review, Journal of Pharmacy, vol.6, 2(June 2016).
18. Li Jun1, SHI Ji2, YU Xin-wen2, SUN Jing-kuan3, MEN Qi-ming1\*, Kang Ting-guo2\*, Chemical and Pharmacological Research on Hyocymus niger, Chinese Herbal Medicine, 2011.
19. Zafar K\*, Noorul H, Nesar A, Vartika S, Khalid M, Prashant S, Zeeshan A, Zohrameena S, Pharmacological activity of Nigella sativa: A review, world Journal of Pharmaceutical sciences, 28-4-2016.
20. Varsha Sharma, Akshay Katiyar and R.C. Agrawal, Glycyrrhiza glabra:

- Chemistry and Pharmacological activity, July 31, 2017.
21. Saroosh Zahoor, Sammia Shahid\* and Urooj Fatima, Review of Pharmacological activities of Vetiveria zizanoide(Linn), Journal of basic & Applied sciences, 14, 2018.
22. Sri Ranjani Sivapalan, Medicinal uses and pharmacological activities of Cyperus rotundus Linn- A review, International Journal of scientific and research, vol.3, May 2013.
23. Hosne Jahan Shetu1, Kaniz Trisha2, Shishir Ahmed Sikta3, Raihanatul Anwar4, Sadman Sakib Bin Rashed5, Prithesh Ranjan Dash6, Pharmacological importance of Kaempferia galanga (Zingiberaceae): A mini review, International Journal of Research in Pharmacy and Pharmaceutical science, vol.3, may 2018, pg no 32-39.
24. Ramzi A. Mothana, Jamal M. Khaled and Mine Kurkcuoglu, Pthytochemical analysis and evaluation of the cytotoxic, antimicrobial and antioxidant activities of essential oils from three Plectranthus species grown in Saudi Arabia, Aug 10, 2018.
25. Ali Esmail Al -Shan, The Pharmacological activities of Alpinia galangal-A Review, International journal for pharmaceutical research scholars, vol 3, 2018.
26. Chauhan Khushbu\*1, Solanki Roshni1, Patel Anar1, Macwan Caroll1, Patel Mayuree1. A review on Phytochemical and Therapeutic Potential of Piper longum Linn. 2011.
27. Kaliyaperumal Ashok Kumara\*, Muthusamy Murygana, M.K.Dhanyaa, Thomas D.Warkentinb. A Critical review on Botany, Traditional uses, Phytochemistry and Biological activities of (Elettaria Cardamomum(L) Maton)-23 Sep, 2019.
28. Meenu Bist and Shyam Baboo prasad. A Review on Embelia ribes. A valuable medicinal plant, Journal of chemical and Pharmaceutical Research, 2016.
29. Pasupuleti Visweswara Rao1, Siew Hua Gan2. A review on Cinnamon verum: A Multifaceted Medicine Plant 10, April 2014.
30. Manu Pant\*, Ankita Lal, Swati Rana, Anju Rani. A mini review on Plumbago Indica, International Journal of Pharmaceutical Applications, 2012.
31. Mukesh Kr. Singh, Gaurav Khare, Shivkviyer, Gomtmi sharwan and D.K.Tripathi. A review on Clerodendrum serratum: A clinical Approach in Journal of Applied Pharmaceutical science, 2012.
32. Prof Dr Ali Esmail AL-Snafi. A review on chemical constituents and Pharmacological activities of Coriandrum sativum, IOSR Journal of Pharmacy vol.6, July 2016.
33. Prof Dr Ali Esmail AL-Snafi, The Pharmacological activities of Cuminum cyminum. A Review vol-6 (June 2016).
34. Prof Dr Ali Esmail AL-Snafi. A review on Glycyrrhiza glabra: A Phytochemical and Pharmacological June 2018.
35. Bharat Bhushan\*, Sharma Satish Kumar, Singh Tanuja, Singh Lalit, Arya Hema. A Pharmacological overview Vetiveria zizanioides (July 2013).
36. B.A. Nisheeda1, P.M. Safeer2, S. Sreekumar3, C.K. Biju4, G.Seeja5 and C.Manivannan6. A review on Plectranthus vetiverioides March-April 2016.
37. Prof Dr Ali Esmail AL- Snafi. A review on Cyperus rotundus A potential Medicinal plant, IOSR Journal of pharmacy vol.6, July 2016.
38. Muhammad Ihtisham Umar1\*, Mohammad Zaini Bin Asmawil1, AMirin Sadikum2, Rabia Altafi and Muhammad Adnan Iqbal3. A review on Kaempferia galangal L. Phytochemistry and Medicinal properties vol.5, 15 October 2011.