VASAMBU KAAPU IN PREVENTION OF COMMON PAEDIATRIC AILMENTS – AN OVERVIEW

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ABSTRACT

The moment a child is born, modern medicines begin to intervene. The early month of child’s life is kicked into vaccines and medications even for minor ailments such as common cold, Indigestion, constipation etc. Though modern medicine offers instant solution it neglects the integrated whole body approach that siddha medicine has offered for centuries. Balavagadam a branch of Siddha system of medicine deals with paediatric disease and remedies. Acorus calamus (Vasambu) also called as Pillai Marunthu has been in use for paediatric ailments since ancient times. It is usually worn as bracelets, necklace, anklets around the childs body. Vasambu has both scientific and traditional evidence for paediatric usage.

This paper explains how vasambu bracelets are made and its use in prevention of common pediatric ailments.

KEYWORDS: Paediatric, Siddha medicine, Balavagadam, Vasambu, acorus calamus.

INTRODUCTION

Siddha is one of the most unique and effective forms of healthcare for children. Though siddha system of medicine uses mainly herbal formulations the potency of these formulations are not less than other system of medicines. Since ages these formulations are used to build a healthy body, sharp intellect, right from infancy to adulthood. Siddha is a very vast science and Balavagadam is one of the specialized branches that mainly focuses on pediatric health problems. It covers all aspects of child growth from the neonatal phase to adolescence including
treatment regimen at every stage of child’s life. It also explain the link between the health of mother and it influence over the health of the children. Siddha system emphasizes many medications that can develop immunity and shield them from various kinds of diseases. 

Vasambu (*Acorus calamus*) or Sweet flag is one of the herb that is been administered children from ancient times. In Siddha it is called as “Pillai Marunthu” means Pediatric medicine. Vasambu is usually worn as Kappu around the wrist of infants. The rhizome of vasambu usually serves this purpose.Kaapu literally means protection .This string is used as protective. Thayathu, araigyan kayiru, kaal kolusu, kulisam, kaluthu kayiru are other names for Kaapu. After uttering prayer,Amulet or Yellow string is tied to child’s wrist as a protective measure against the influence of evil spirits and other violent acts. Similarly after chanting appropriate mantras a yellow string is tied to a particular plant, for dispelling evil curses and to drive full benefit of that plant towards treating disease. Like *Acorus calamus* many such herbs are used as Kaapu in siddha system of medicine for various other ailments.

**Other Medicinal Bracelets**

<table>
<thead>
<tr>
<th>Bot. name</th>
<th>Tamil name</th>
<th>Uses</th>
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<tbody>
<tr>
<td>Cynodon dactylon</td>
<td>Arugam pul</td>
<td>Kulisa thodam neenga</td>
</tr>
<tr>
<td>Abutilon indicum</td>
<td>Thuthi</td>
<td>Neer pull dhodam neenga</td>
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<tr>
<td>Solanum trilobatum</td>
<td>Thoothuvalai</td>
<td>Kulithaval edutha thodam Neenga</td>
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<td>Borassus flabellifer</td>
<td>Panai</td>
<td>Patchi dhodam neenga</td>
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<tr>
<td>Abrus precatorius</td>
<td>Kundri mani</td>
<td>Paravai dhodam Neenga</td>
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<td>Desmodium triflorum</td>
<td>Siru pulladi</td>
<td>Pull dhosam Neenga</td>
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<td>Cossypium herbaceum</td>
<td>Paruthi</td>
<td>Penn thodam neenga</td>
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<td>Withania somnifera</td>
<td>Amukkara</td>
<td>Etchi thodam Neenga</td>
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<tr>
<td>Bauhinia tomentosa</td>
<td>Kaaathathi</td>
<td>Karpam alintha thodam neenga</td>
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<tr>
<td>Phyllanthus amarus</td>
<td>Keelanelli</td>
<td>Ella vagai thodam Neenga</td>
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**Vasambu Kaapu preparation**

1. Dried rhizome of *Acorus calamus* were collected from markets.
2. The dried rhizomes were soaked in water overnight to make it soft. It will be little bit swollen.
3. Outer skin of the rhizome was peeled off using a sharp knife
4. The Peeled rhizome pieces were cut into very small pieces.
5. The cut pieces were then beaten with thread or gold string or silver strings using a needle.
6. Then it was allowed to dry and then it was tied around the babies hand. The vasambu pieces get harder when they get dry.
7. Caution should be taken to ensure that the bracelet is not tied tightly over the baby’s hand.
8. Usually the bracelet is worn after 40 days from the baby’s birth.

Tying vasambu bracelet for children is a tradition that has been followed for many years in India. This bracelets is a life saver because it prevents the babies from falling ill. Each time the baby sucks on the vasambu pieces, a very small amount of the vasambu extract enters their stomach and this prevents them from getting stomach disorders and abdominal colic. Vasambu has surplus therapeutic benefits that prevent the occurrence of various diseases in children.

**Scientific aspects of Acorus calamus**

**The rhizome contains**
- β-asarone \((1, 2, 4\text{-trimethoxy-5-prop-1-enyl-benzene})\) at 30mg/g in a 70% ethanolic extract,\(^6,7\) 8.4% in a 60% ethanolic extract,\(^8\) and between 0.1-0.44% of the overall (non-extracted) rhizome\(^5\)
- α-asarone (0.1% of a 60% ethanolic extract)\(^8\)
- Sequesterpenes known as calamusin A-H and n萝sequesterpine calamusin I\(^9\)
- \((1R,4R,6S,10R)-1\text{-hydroxy-7(11)-cadinen-5,8-dione} and \(2R,6R,7S,9S)-1(10),4\text{-cadinadiene-2,9-diol}\) (cadinane-type sequesterpenes)\(^10\) and some other structurally related sequesterpenes\(^11\)
- β-daucosterol\(^12\)
- \(3β,22α,23\text{-trihydroxyolean-30-methoxycarbonyl-12-ene-22-O-α-l-rhamnoside}\), a pentacyclic triterpenoid\(^12\)

**Anti microbial activity of Acorus calamus**

The minimum inhibitory concentration (MIC) of the rhizome and leaf extracts of *Acorus calamus* for antifungal activity measured was 2-4mg/ml, except for Penicillium chrysogenum whereas against yeasts was relatively higher, 4-5 and 6-8 mg/ml. MIC value for antibacterial activity was comparatively very high ~16-42mg/ml. In addition, authentic A- and B-asarones were also tested for their antimicrobial potential. The study clearly suggested that *A. calamus* rhizomes and leaves must possess active principle A- and B-asarones which is believed to be responsible for their antimicrobial activities.\(^13\)

**Antihelminthic Activity of Acorus calamus**

The in vivo study revealed that treatment of *H. diminuta* infected rats by a single 800 mg/kg dose of rhizome extract of *Acorus calamus* for 5 days results into 62.30% reduction in eggs per gram of feces counts and 83.25% reduction in worm counts of animals. These findings compared well
with the efficacy of a reference drug, praziquantel. The active principle b-asarone showed slightly better anthelmintic effects than crude extract.\[14\]

**Antioxidant activity of Acorus calamus**

In DPPH radical scavenging activity of crude extracts of Acorus calamus highest activity was observed in the methanol, propanol and ethanol extracts, while acetonitril and water extract also showed good inhibitory effects. DPPH radical inhibition by Acorus calamus extracts is decreased in the following order: MeOH > EtOH = PrOH > ACNT > H2O > ACT = EA. These results indicate that Acorus calamus alcoholic extracts have better performance against DPPH radical scavenging activity than the other solvent extracts. The reducing power of extracts serves as a significant indicator for its potential antioxidant activity. In this assay, the color of the test solution changes to blue depending on the reducing power of test extracts. The presence of reductants in the solution causes the reduction of the Fe3+/Fe2+ form.\[15\] Of the extract, Alcoholic extracts show maximum antioxidant activity. Other extracts also have markable antioxidant activity.\[15\]

**Anti diarrhoeal activity of Acorus calamus rhizome**

A study was undertaken to evaluate the effect of aqueous and methanolic plant extracts of Acorus calamus rhizome, Pongamia glabra leaves, Aegle marmelos unripe fruit and Strychnos nux-vomica root bark for their antidiarrhoeal potential against castor-oil induced diarrhoea in mice. The methanolic plant extracts were more effective than aqueous plant extracts against castor-oil induced diarrhoea. The methanolic plant extracts significantly reduced induction time of diarrhoea and total weight of the faeces. The result obtained establish the efficacy of these plant extracts as antidiarrhoeal agents.\[16\]

**Neuroprotection**

Exposure of rats to acrylamide (ACR) caused hind limb paralysis in 58% of the animals on day 10 and decreased behavioural parameters, namely distance travelled, ambulatory time, stereotypic time and basal stereotypic movements compared with the control group. These rats also had a decrease in the reduced glutathione (GSH) content and glutathione-S-transferase (GST) activity in the corpus striatum and an increase in striatal dopamine receptors, as evident by an increase in the binding of 3H-spiperone to striatal membranes. Treatment with the ethanol: water (1:1) extract of the rhizomes of Acorus calamus (AC-002) increased the GSH content and GST activity in the corpus striatum while insignificant changes were observed in other parameters. Rats treated with ACR and AC-002 in combination had a lower incidence of
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paralysis (18%) compared with those treated with ACR alone on day 10 of the experiment. The rats also showed a partial recovery in other behavioural parameters. The levels of GSH content and GST activity increased in the corpus striatum, while the dopamine receptors decreased compared with the ACR treated rats. The results suggest that the neurobehavioural changes produced by ACR may be prevented following treatment with Acorus calamus rhizomes.[17]

Analgesic activity

Writhing test: The oral administration of the MEAC extract at the doses of 100 and 200 mg/kg significantly reduced the writhing reaction induced by acetic acid. Indomethacin inhibited pain sensation by 16.48 from 37.90 and the percentage of protection is 59.9% Whereas the Methanolic extract of Acorus calamus at the dose of 100 and 200mg/kg showed 38.09 and 45.02% respectively.

Rat caudal immersion method

In this method, the Methanolic extract of Acorus calamus roots at the dose of 100 and 200mg/kg exhibited significant analgesic activity (**P < 0.001) which was confirmed by increased tail withdrawal time of MEAC treated animals when compared to control groups.[18]

Memory and Learning

12.5-50mg/kg β-asarone oral ingestion for 28 days (starting three days after β-amyloid toxicity) is able to preserve cognition in rats with a potency comparable to 0.33mg/kg donepezil hydrochloride which was associated with a reduction in hippocampal apoptosis rates (of which donepezil was ineffective). Possible anti-amnesiac effects associated with high dose β-asarone, thought to be a combination of the acetylcholinesterase inhibition and neuroprotective effects.[19]

ACORUS CALAMUS USES IN SIDDHA PAEDIATRICS

For Hiccough

Elam (Elettaria cardomomum), Lavangam (Syzygium aromaticum), Nannari Ver (Hemidesmus indicus), Acorus rhizome, kadukkai (Terminalia chebula) are taken in equal proportion. They are grinded, mixed with cow’s ghee and heated until perfect consistency is achieved. When given to children in required dose, hiccough gets relived.[20]

For Indigestion

Omam (Tachyspermum amni), Jathi Koshtam (Costus speciosus), Korai kizhangu (Cyperus rotundus), Burnt Vasambu (Acorus calamus) each weighing grams were taken, fried and then
powdered. To this powder 170 ml of water is added, boiled and reduced to 20ml. 20ml Should be given in the morning and evening for children suffering from indigestion for 2 to 3 days.[21]

For Worm Infestation
Uthamani juice (*Pergulaira daemia*), Salt, *Burnt Vasambu*, Aamanakku ennai (*Ricinus communis* oil), were taken in equal proportion and boiled to required consistency. When given to children at dose of 5ml daily in the morning in empty stomach for 3 days worms will be expelled in stools.[22]

Also Vasambu is an important ingredient in other formulations such as sirupilai nei, nayuruvi nei, karungkali kudineer, indicated for worm infestation.[22]

For respiratory disorders
Vasambu is an ingredient in various medicated oils given for Cold.

Vasambu is important ingredient in Vattathirupi nei given for cough
Vasambu decoction relives cough. 35 grams of Omam (*Tachyspermum ammi*), 12 grams of *Perugayam* (*Ferrula asafoetida*), 35 grams of garlic, 35 grams of acorus, 35 grams of *piper longum root* should be taken. Ferrula should be slightly heated in flame and mixed with other ingredients, powdered well. The powdered drug should be mixed with palm jaggery. Dose: 250 mg to 500mg[23]

Vasambu is also included in formulations given for tuberculosis.[24]

For Fever
*Adathodai leaf* (*Justicia adathoda*), *Pirandai* (*Cissus quadrangularis*), *Kandankathiri root* (*Solanum xanthocarpum*), *Peipudal* (*tricosanthes cucumerina*), *Muthakasu* (*Costus speciosus*) *kadugurohini* (*picrorhiza kurroa*), *Kothumalli* (*coriander sativum*) each 12 grams should be taken and added to 2.6 liters of water. This should be reduced to 200 ml and given twice daily for three days. This cures fever with rigor[25]

Vasambu, omam (*Tachyspermum ammi*), *vellai vengayam* (*Allium cepa*), *Poduthalai* (*Phyla nodiflora*), pepper (*piper nigrum*), long pepper (*piper longum*), aamai odu should be grinded and made 250mg size pill. It is rubbed in honey and administered to the children Dose should be given based on the age[26]
It is added in many formulations indicated for fever\textsuperscript{[27]}

CONCLUSION
Vasambu as it name Pillai Marunthu indicates is therapeutically potential in preventing and treating various pediatric ailments. Common pediatric ailments like common cold, indigestion, abdominal colic, etc can be prevented and treated by tying vasambu bracelet to the child’s wrist. It is a good old practice which is now losing its importance. The scientific and traditional aspects discussed in this article prove that vasambu kaapu is useful in treating and preventing various pediatric ailments. Not only vasambu kaapu, there are so many hidden treasures in siddha system of medicine that has to be brought to lime light.

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