A Drug Review on Kandaamalaga ilakam for Azhal Veluppu noi (Iron Deficiency Anaemia)

Nivetha T1, H. Vetha Merlin Kumari2*, Manickavasakam K3, Banumathi V4
1PG Scholar, Dept of Maruthuvam, National Institute of Siddha Chennai-47Affiliated to the TN DR M.G.R Medical University, Chennai-32 India
2Lecturer, Dept of Maruthuvam, National Institute of Siddha Chennai-47Affiliated to the TN DR M.G.R Medical University, Chennai-32 India
3Professor and Head of the Dept of Maruthuvam and Former Director, National Institute of Siddha Chennai-47Affiliated to the TN DR M.G.R Medical University, Chennai-32 India
4Director, National Institute of Siddha Chennai-47Affiliated to the TN DR M.G.R Medical University, Chennai-32 India

Abstract: Anaemia is one of the common nutritional deficiency diseases of developing countries. The clinical condition of veluppu noi or paandu noi in siddha can be correlated with anaemia. Siddha system contains more effective medicines for treating anaemia. Among which kandaamalagam ilakam is a cost effective medicine for management of azhal veluppu noi. This review focuses about the phytochemical and pharmacological actions of each ingredient of Kandaamalaga Ilakam.

Keywords: Anaemia, Veluppu noi, kandaamalaga ilakam, Siddha system.

INTRODUCTION
Anaemia is a condition of reduction in the haemoglobin concentration of the peripheral blood below the normal level in the relation to age and sex [1].Women is more likely affected than male. In yugi vaithiya chinthamani text, yugi munivar classified veluppu noi into 5 types and Azhal veluppu noi is one among them. The symptoms of azhal veluppu noi is that pallor of skin and mucous membrane, fatigue, lassitude, chest discomfort, breathlessness, pica, giddiness, dizziness, angular stomatitis, pungent or bitter taste in tongue explained in siddha literature[2]. These are correlated with iron deficiency anaemia in bio medicine. The drug kandaamalaga ilakam is indicated for azhal veluppu noi.

MATERIALS AND METHODS
Ingredients of Kandaamalaga Ilakam
- Nellikkaisaru (phyllanthus emblica.Linn) -1/4 padi(335 ml).
- Seeragam (Cuminum cyminum.Linn) -1/2 palam (18 gram).
- Lavangapathiri (Cinnamomum tamala.Buch.hum)Nees -1/2 palam(18gram).
- Kiraambu (Syzygiyam aromaticum.Linn) -1/2 palam (18 gram).
- Venkodivelverpattai (Plumbago zeylanica.Linn) - 1/2 palam (18 gram).
- Vaividangam (Embelia ribes.Burm.f) -1/2 palam (18 gram).
- Sirunagapoo (Mesua nagassarium.Burm.f) -1/2 palam(18 gram).
- Athimadhuram (Glycyrrhiza glabra.Linn) -1/2 palam (18 gram).
- Elam (Elettaria cardamomum. Maton) -1/2 palam (18 gram).
- Indhuppu (Sodium chloride impura) -1/2 palam(18gram).
- Naattu Sarkarai -25 palam (875 gram).
- Nei - 1padi (1.34 litres).
- Honey -1/2 padi (670 ml).

Method of Purification
- Nellikkai (Phyllathus emblica.Linn)
  Fruit-Cleaned in water and removed the seed.
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- **Seeragam (Cuminum cyminum, Linn)**
  Fruit - Dried it in sunlight and fried it like as golden yellow colour

- **Lavangapathiri(Cinnamomum tamala Buch.Hum) Nees**
  Leaf - Dried under sun light and to be taken.

- **Kiraambu(Syzygium aromaticum, Linn)**
  Flower buds - Dried under shade.

- **Venkodiveliverpattai( Plumbago zeylanica,Linn)**
  Clean the root in water. To separate the root bark from the root then made it into powder. After that poured the milk in a mud vessel, the root bark powder is placed over it and the vessel is covered with another mud vessel and allowed steaming process for three hours (1 saamam), then dried it and powdered it again by grinding in black morter (kalvam).

- **Vaividangam (Embella ribes. Burm. f)**
  Fruit-cleaned and dried under shade

- **Sirunagapoo( Mesua nagassarium.Burm.f)**
  Flower buds- cleaned and dried under shade

- **Elam (Elettaria cardamomum.Manton)**
  Seed – cleaned and dried under shade

- **Athimadhamuram (Glycyrrhiza glabra, Linn)**
  Root - Cleaned in water, Scraped the outer layer and cut in to small pieces then dry into sun light.

- **Indhuppu (Sodium chloride impurea).**
  Grinded the salt into fine powder dissolved the rock salt powder in rice washing water and filters the mixture after that to dry the filtrate and to be taken.

**Method of preparation**

Step1: 2nd to 10th drugs are finely powdered.

Step 2: Then ¼ padi(335ml) of gooseberry juice is allowed to be boil and then 25 palam (875 gram) sugar is added and make it into pagu consistency.

Step3: powdered mixture is added into the pagu, and then 1 padi ghee (1.34 litre) is added,

Step4: Then the whole contents are mixed to ilakam consistancy. Ilakam is allowed to cool down for few minutes then honey is added.

**Drug Storage:** The prepared drug is stored in a clean and dry air tight glass container.

**Dose and duration:** 4 g, thrice a day after food, 45 days [3].

<table>
<thead>
<tr>
<th>S. No</th>
<th>Plants</th>
<th>Botanical name</th>
<th>Family</th>
<th>Used part</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nellikkai.</td>
<td>Phyllathus emblica Linn</td>
<td>Euphorbiaceae</td>
<td>Juice</td>
</tr>
<tr>
<td>2</td>
<td>Elam</td>
<td>Elettaria cardamomum Manton</td>
<td>Zingiberaceae</td>
<td>Seed</td>
</tr>
<tr>
<td>3</td>
<td>Seeragam</td>
<td>cuminum cuminum Linn</td>
<td>Umbeliferae.</td>
<td>Fruit.</td>
</tr>
<tr>
<td>4</td>
<td>Vaividangam</td>
<td>Embelia ribes Burm</td>
<td>Myrsinaceae</td>
<td>Fruit</td>
</tr>
<tr>
<td>5</td>
<td>Athi-mathuram</td>
<td>Glycyrriza glabra Linn</td>
<td>Fabaceae</td>
<td>Root</td>
</tr>
<tr>
<td>6</td>
<td>Sirunagappu</td>
<td>Mesua ferrea Linn</td>
<td>Gutiferae</td>
<td>Flower bud</td>
</tr>
<tr>
<td>7</td>
<td>Venkodiveli</td>
<td>Plumbago zeylanica Linn</td>
<td>Plumbaginaceae</td>
<td>Root</td>
</tr>
<tr>
<td>8</td>
<td>Lavangam</td>
<td>Syzygium aromaticum Linn</td>
<td>Myrtaceae</td>
<td>Flower bud</td>
</tr>
<tr>
<td>9</td>
<td>Lavangapathiri</td>
<td>Cinnamomum tamala Buch.Hum Nees</td>
<td>Lauraceae</td>
<td>Leaves</td>
</tr>
<tr>
<td>S. No</td>
<td>Botanical name</td>
<td>Actions</td>
<td>Phyto chemicals</td>
<td>Pharmacological activity</td>
</tr>
<tr>
<td>-------</td>
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<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td><em>Phyllanthus embelica</em> Linn</td>
<td>Refrigerant, diuretic, laxative, carminative, stomachic, digestive, Alterative.</td>
<td>Ascorbic acid, EmblicaninA,B, gallic acid, ellagic acid, Quercetin.</td>
<td>Anti-oxidant, Hepatoprotective[5,6].</td>
</tr>
<tr>
<td>2</td>
<td><em>Elettaria cardamomum</em> Manton</td>
<td>Stimulant, carminative, Stomachic</td>
<td>1, 8-cineole, Alpha-terpinyl acetate, terpineol, linalyl acetate, terpinolene.</td>
<td>Antioxidant, Hepatoprotective, Cardio protective [7-9]</td>
</tr>
<tr>
<td>3</td>
<td><em>Cuminum cyminum</em> Linn</td>
<td>Carminative, stimulant, stomachic, astrin gent</td>
<td>Cuminosides A and B, cuminic acid, cuminaldehyde, Luteolin, luteolin-7-glucuronosylglucoside, Luteolin-7-glucoside.</td>
<td>Antioxidant, Bioavailability / Bioefficacy enhancing activity, Hepatoprotective, Cardio protective [10-12]</td>
</tr>
<tr>
<td>4</td>
<td><em>Embelia ribes</em> Burm</td>
<td>Anthelmintic,c arminative, stomachic, stimulant</td>
<td>Embelin, vilangin, quercitol, tannins.</td>
<td>Antioxidant, Cardioprotective, Anthelmintic [13-15]</td>
</tr>
<tr>
<td>7</td>
<td><em>Plumbago zeylanica</em> Linn</td>
<td>Anti-periodic, diaphoretic.</td>
<td>Plumbagin, 3,3’-Biplumbagin, 3-chloroplumbagin, Zeylinone, plumbagic acid, 4-naphthoquinone.</td>
<td>Antioxidant, Hepatoprotective effect [21,22].</td>
</tr>
<tr>
<td>8</td>
<td><em>Syzygium aromaticum</em> Linn</td>
<td>Antispasmodic carminative, Stomachic.</td>
<td>Eugenol, β caryophyllene, ohumulene, acetophenone, benzyl salicylate.</td>
<td>Hepatoprotective, Gastroprotective, Antioxidant. [23-26]</td>
</tr>
</tbody>
</table>

DISCUSSION & CONCLUSION

The ingredients of *kandaamalaga ilakam* having Antioxidant, Hepatoprotective, Gastroprotective, cardio protective, immune modulator effect. So it will be correcting the gastrointestinal disturbances, immune pathology, cardio vascular defects and prevents the epithelial damage in iron deficiency anaemia. Embelin present in *Embelia ribes* helps in tackling anaemia caused by worm infestation. *Cinnamomum tamala* also having anthelmintic activity for iron deficiency anaemia. *Phyllanthus emblica* having rich vitamin c it will be enhancing the iron absorption. *Cuminum cyminum*, *Glycyrrhiza glabra* having bio availability enhancing activity so it enhances the bioavailability of drug. *Cuminum cyminum, phyllanthus emblica, syzygium aromaticum, glycyrrhiza glabra, elettaria cardamomum* are also having essential trace elements of iron, Zn, Mn, Cu. As a whole content of this medicine helps to correct the etiology and enhances iron absorption hence it is useful in the treatment of (Iron deficiency anaemia) *azhal veluppu noi*.

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