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

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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).
- Venkodiveliverpattai (*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 (*Elettraria 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.

- 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 *(Embelia 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

- **Athimadhuram (*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: 2^{nd} to 10^{th} 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].

S. No	Plants	Botanical name	Family	Used part
1	Nellikkai.	*Phyllathus emblica* Linn	Euphorbiaceae	Juice
2	Elam	*Elettaria cardamomum* Manton	Zingiberaceae	Seed
3	Seeragam	*cuminum cyminum* Linn	Umbeliferae.	Fruit.
4	Vaividangam	*Embelia ribes* Burm	Myrsinaceae	Fruit
5	Athi-mathuram	*Glycyrriza glabra Linn*	Fabaceae	Root
6	Sirunagappu	*Mesua ferrea* Linn	Guttiferae	Flower bud
7	Venkodiveli	*Plumbago zeylanica* Linn	Plumbaginaceae	Root
8	Lavangam	*Syzygium aromaticum* Linn	Myrtaceae	Flower bud
9	Lavangapathiri	*Cinnamomum tamala* Buch.Hum Nees	Lauraceae	Leaves

S. No	Botanical name	Actions	Phyto chemicals	Pharmacological activity
1	*Phyllathus embelica* Linn	Refrigerant, diuretic, laxative, carminative, stomachic, digestive, Alterative.	Ascorbic acid, EmblicaninA,B, gallic acid , ellagic acid, Quercetin.	Anti-oxidant, Hepatoprotective[5,6].
2	*Elettaria cardamomum* Manton	Stimulant,carminative, Stomachic	1, 8-cineole, Alpha-terpinyl acetate, terpineole, linalyl acetate, terpinolene.	Antioxidant, Hepatoprotective, Cardio protective [7-9]
3	*cuminum cyaminum* Linn	Carminative, stimulant, stomachic,astringent.	Cuminosides A and B, cumic acid, cuminaldehyde, Luteolin, luteolin-7-glucuronosylglucoside,luteolin-7-glucoside.	Antioxidant, Bioavailability / Bio efficacy enhancing activity, Hepatoprotective, Cardio protective [10-12].
4	*Embelia ribes* Burm	Anthelmintic,carminative, stomachic,stimulant	Embelin,vilangin, quercitol,tannins.	Antioxidant, Cardioprotective, Anthelmintic [13-15].
5	*Glycyrriza glabra Linn*	Emollient, Demulcent, Mild expectorant, tonic, Laxative.	Glycyrrhizin, Glycyrrhizic acid, Glycyrrhetinic acid, Licochalcones, Glycyrrhisoflavone.	Hepatoprotective, Immune modulatory, Gastroprotective, Antioxidant,Bio availability enhancing activity [16-19]
6	*Mesua ferrea* Linn	Astringent, carminative, stomachic, stimulant.	Mesuol, Mesuone, Volatile oil.	Antioxidant, Immune modulatory, Hepatoprotective, anthelmintic [20].
7	*Plumbago zeylanica* Linn	Anti-periodic, diaphoretic.	Plumbagin, 3,3`-Biplumbagin,3-chloroplumbagin, Zeylinone,plumgagic acid, 4-naphthoguinone.	Antioxidant, Hepatoprotective effect [21,22].
8	*Syzygium aromaticum* Linn	Antispasmodic carminative, Stomachic.	Euginol, β caryophyllene, αhumulene,acetophenone, benzyl salicylate.	Hepatoprotective, Gastroprotective, Antioxidant. [23-26]
9	*Cinnamomum tamala* Buch.Hum Nees	Stimulant,carminative, stomachic,diaphoretic.	Eugenol,linalool, α pinene, cinnamaldehyde.	Anti-oxidant, Gastroproductive,immunomodulatory,Hepatoprotective [27-30].

DISCUSSION & CONCLUSION

The ingredients of *kandaamalaga ilakam* having Antioxidant, Hepato protective, 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, elettarria 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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