

**A LITERATURE REVIEW ON SIDDHA HERBAL, POLY-HERBAL
AND HERBO-MINERAL FORMULATIONS FOR CARDIAC DISEASES
(IRUDHAYA ROGAM)**

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ABSTRACT

Cardiovascular mortality has risen in last few years and ischemic heart diseases is one of the most common cause. Conventional modern drugs currently used for cardiovascular diseases have some adverse effects. Hence there is need to search for drugs from herbal, poly herbal derivatives nature that are more potent but less side effects. Siddha system of medicine has enormous herbal, poly herbal, herbo-mineral and animal based formulations for the diseases affecting human kind that need to be scientifically validated. This review paper aim to explore about some of the siddha formulation mentioned for cardiovascular diseases.

KEYWORDS: Siddha formulation, cardiovascular diseases, Irudhaya rogam, Atherosclerosis.

INTRODUCTION

Cardiovascular disease (CVD) is defined as any serious, abnormal condition of the heart or blood vessels (arteries, veins). Cardiovascular disease includes coronary heart disease (CHD), stroke, peripheral vascular disease, congenital heart disease, endocarditis, and many other conditions.^[1] Cardio vascular diseases (CVD) is a significant cause of morbidity and

mortality throughout the world. The main symptoms of CHD are,^[2] Angina, or chest pain is the most common symptom of coronary artery diseases, Weakness, light headedness, nausea or cold sweat, Pain or discomfort in the arms or shoulder, Shortness of breath. The most important behavioral risk factors of heart diseases and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioral risk factor may show up in individuals as raised blood lipids and overweight and obesity. These intermediate risk factors can be measured in primary care facilities and indicate an increased risk of heart attack, stroke, heart failure and other complications.^[3]

PREVALANCE

World wide

Cardio vascular diseases (CVDs) are the leading causes of death globally. An estimated 17.7 million people died from CVDs in 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke. Over three quarters of CVD deaths take place in low and middle –income countries. Out of the 17million premature deaths (under the age of 70) due to non-communicable diseases 2019,38% were caused by CVDs.^[3] The most important behavioral risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioral risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity.^[3]

In India

Over 75% of CVD deaths take place in low- and middle-income countries where raised blood pressure happens to be amongst the most important risk factors for CVDs. In 2016 India reported 63% of total deaths due to NCDs, of which 27% were attributed to CVDs. CVDs also account for 45% of deaths in the 40-69 year age group.^[4] According to WHO's India report, males had higher age adjusted CVD death rates than women.

The line of treatment for ischemic heart diseases is as follows

- ❖ Analgesics and antianxiety drugs
- ❖ Thrombolytics / Fibrinolytics
- ❖ Antiplatelet drugs
- ❖ Anticoagulants
- ❖ Oxygen
- ❖ Vasodilators

Other drugs

- ❖ β –adrenergic antagonist
- ❖ ACE inhibitors
- ❖ Inotropic drugs
- ❖ Antiemetics
- ❖ Antiarrhythmias.^[5]

Thrombolytic agents are**First generation agents**

- Streptokinase
- Urokinase

Second generation agents

- Alteplase
- Duteplase
- Tenecteplase
- Reteplase

ANTI PLATELET DRUGS**Classification**

1. Thromboxane (TXA₂) synthesis inhibitor: low dose aspirin
2. Phosphodiesterase inhibitor: dipyridamole
3. Purinergic (P₂Y₁₂) receptor antagonists: Ticlopidine, Clopidogrel, Prasugrel, Cangrelor, Ticagrelor.
4. Glycoprotein (GP) IIb/IIIa receptor antagonists: Abciximab, Eptifibatide, Tirofiban.

Siddha Aspect

In siddha system, heart diseases are commonly known as Thamaraga noigal which is mentioned in siddha text book pothu maruthuvam. Other names for Thamraga noigal are *Marbu noi*, *Irudaya noi*, *Thamaraga vaayu*, *Ruthravaayu*.^[6] This group of diseases is characterized by shortness of breath, chest discomfort, palpitation, fatigue, giddiness and suddenly leads to death. The etiology of this diseases is taking food substances which increases vadha and sexual indulgence, stimulates the melnökkukal (uthana vayu), paravukal (viayana vayu), Familial history also remains as an important factor. It may also occur in association with arthritic diseases (keel vayu). Early symptoms of thamaraga noigal are

Exertion while walking, slurring of speech, severe cough, giddiness, chest discomfort, squeezing pain, dyspnoea, fainting bluish discoloration of face and lips. Other symptoms such as disturbances of sleep and persistent cough may also occur. There are different types of thamaraga noigal mentioned in siddha text are, Vatha thamaraga noi, Pitha thamaraga noi, Kapha thamaraga noi, Mukuttra thamaraga noi, Puzhu thamaraga noi.

METHODOLOGY

This present review paper is based on the literature search undertaken for herbal, poly-herbal, herbo-mineral, meto-mineral, and animal product formulation mentioned in siddha system of medicine. This review illustrate the information about Cardio protective formulations and herbal drugs used in siddha medicine for the treatment of cardiac diseases. Detailed search was done in the libraries- Government Siddha Medical College Chennai-106 and Central Council for Research in Siddha, Chennai-106.

OBSERVATION AND DISCUSSION

Table 1: Herbs used to treat cardiac diseases and strengthen the heart from Gunapadam Mooligai Vaguppu.^[7]

S.no	Name of The Herbs	Botanical Name	Indication
1.	Arathai	<i>Alpinia galanga</i>	Chest pain
2.	Paereechu	<i>Phonex dactilifera</i>	Heart attack
3.	Echuramooli	<i>Aristolochia indica</i>	Cardiac diseases
4.	Elikaadhilai	<i>Merremia emerginata</i>	Cardiac diseases
5.	Seendhil	<i>Tinospora cardifolia</i>	Strengthen the heart
6.	Thippili ver	<i>Piper longum</i>	Heart attack
7.	Thairatchai	<i>Vitis vinifera</i>	Cardiac tonic
8.	Thetraan	<i>Strychnos potatorum</i>	Heart attack
9.	Nerunjil	<i>Tribulus terrestris</i>	Swelling of the heart
10.	Marudhu	<i>Terminalia arjuna</i>	Cardiac tonic
11.	Milakaai	<i>Capsicum annuum</i>	Cardiac stimulant
12.	Thaamarai	<i>Nelumbo nucifera</i>	Cardiac tonic

Details of herb used for cardiac ailments

1. *Alpinia galangal*

2-4 g of dried powder is taken with honey to treat chest pain.

2. *Phonex dactilifera*

Flesh part of dates are soaked in honey is taken to treat heart attack.

3. *Aristolochia indica*

2 grams of dried leaf powder is taken twice daily to treat cardiac diseases.

4. *Merremia emerginata*

Cooking this and eating to treat cardiac diseases.

5. *Tinospora cardifolia*

Extract of this plant is used to strengthen the heart.

6. *Piper longum*

The root powder of this plant is blow in the nose to treat cardiac arrest.

7. *Vitis vinifera*

Dry grapes strengthens and cools the heart.

8. *Strychnos potatorum*

Eating the skin of this fruit in any way to cure heart attack.

9. *Tribulus terrestris*

Seed of the plant is used to cure cardiomegaly.

10. *Terminalia arjuna*

Bark of this plant is used to strengthen the heart.

11. *Capsicum annuum*- cardiac stimulant.**12. *Nelumbo nucifera***

Juice of this flower is used to strengthen the heart.

Table no 2: Poly herbal formulation to treat cardiac diseases.

S.No	Name of the formulation	Dosage	Indication	Reference
1.	Sarthoolathi kuligai	8g	Myocardial infarction	Agathiyar valladhi 600 ^[14]
2.	Chithirakadhi leghiyam	5g	Chest pain	Anubava vaithiyam deva ragasiyam ^[9]
3.	Irudhayasoolaikku useeradhi chooranam	1-2g	Pricking pain of heart	Anubava vaithiya deva ragasiyam ^[9]
4	Yashtiyadhi kirudham	-	Cardiac diseases	Anubava vaithiya deva ragasiyam ^[9]
5	Maaradaippuku	1-2g	Chest pain and	Theraiyar vaidhiyam

	chooranam		myocardial infarction	1000 ^[12]
6.	Shoothirava leghiyam	5g	Chest pain	Anubava vaithiya deva ragasiyam ^[9]
7.	Sarkaraasavam	8.75-17.5g	Cardiac diseases	Kannusaamy parambarai vaithiyam ^[8]
8.	Laghuviyaakiradhi leghiyam	5g	Cardiac diseases	Anubava vaithiya deva ragasiyam ^[9]
9	Vilva ilagam	5g	Cardiac diseases	Siddha Maruthuvam(Pothu) ^[17]
10	Parangipattai ilagam	5g	Cardiac diseases	Siddha Maruthuvam(Pothu) ^[17]

Some of the poly herbal decoction mentioned in Siddha maruthuvam (podhu)^[18]

1. Bark of *Terminalia arjuna*, *Vitex negunda* leaf, *Ipomoea sepiaria*, nutmeg and mace, seed of *Syzygium cumini* are taken in equal quantity and made into decoction. Dose: 168ml / twice daily.
2. Dates, Singara kizhangu^[18] (sweet potato) *Curculigo orchiodes gaetn*, *Asparagus racemosus*, bark of *Aegle marmelos*, lotus tuber and bark of *Terminalia arjuna*, each 35gm was taken and made into decoction.
3. Bark of *Aegle marmelos*, *Cedrus dcodara*, *Trachyspermum ammi*, *Cinnamomum verum*, nutmeg and mace, Bark of *Terminalia arjuna*, each 35gm and add 1.30litre of water and made into decoction. Dose: 84ml / twice daily.

Table no. 3: Herbo-mineral formulation to treat cardiac diseases.

S.No	Name of the formulation	Dosage	Indication	References
1.	Viyosadhi chooranam	800-1000mg	Cardiac diseases	Kannusamy parambarai vaidhiyam ^[8]
2	Aerandadhi kizhayam	30ml	Chest pain	Anuboga vaithiya deva ragasiyam ^[9]
3.	Irudhayasoolaiku Useeradhi chooranam	1 to 2 gm	Chest pain	Anuboga vaithiya deva ragasiyam ^[9]
4.	Padadhi chooranam	1 to 2 gm	Cardiac diseases	Anuboga vaithiya deva ragasiyam ^[9]
5.	Thamira boopathi kuligai	1 tablet	Myocardial infarction	Anuboga vaithiya deva ragasiyam ^[9]
6.	Uruthiravayu linga mathiarai	½ to 1 tablet	Myocardial infarction	Anubogavaidhiya navaneehdam ^[11]
7.	Lavangaasavam	8to17g	Cardiac diseases	Kannusamy parambarai vaidhiyam ^[8]
8.	Vaayuraasa linga mezhugu	130 -260mg	Myocardial infarction	Siddha maruthuva thogudhi vadha thodarbana noi part 1 ^[15]
9.	Thanga chenduram	65-130mg	Myocardial	Siddha maruthuva

			infarction	thogudhi vadha thodarbana noi part 1 ^[15]
10.	Thirisoodha mezhugu	50 -75 mg	Cardiac diseases	Kannusamy parambarai vaidhiyam ^[8]
11.	Ayaveera chenduram	130-260mg	Myocardial infarction	Anubogavaidhiya navaneehdam part 1
12.	Chandamarudha chenduram	65 - 130 mg	Cardiac diseases	Siddha maruthuva thogudhi vadha thodarbana noi part 1 ^[15]
13.	Thambira parpam	65- 130 mg	Myocardial infarction	Siddha maruthuva thogudhi vadha thodarbana noi part 1 ^[15]
14.	Amirdha gendhi kukil valladhi	5.39g	Myocardial infarction	Agasthiya valladhi 600 ^[14]
15.	Ruthravayu chooranam	5 - 6 gm	Angina pain and cardiac ailments	Anubogavaidhiya navaneehdam part 10 ^[13]
16.	Ayanaaga parpam	100mg	Myocardial infarction	Siddha maruthuvam (podhu) ^[17]
17.	Muthu parpam	100mg	Cardiac diseases	Siddha maruthuvam (podhu) ^[17]

Table no. 4: Animal based formulation to treat cardiac diseases.

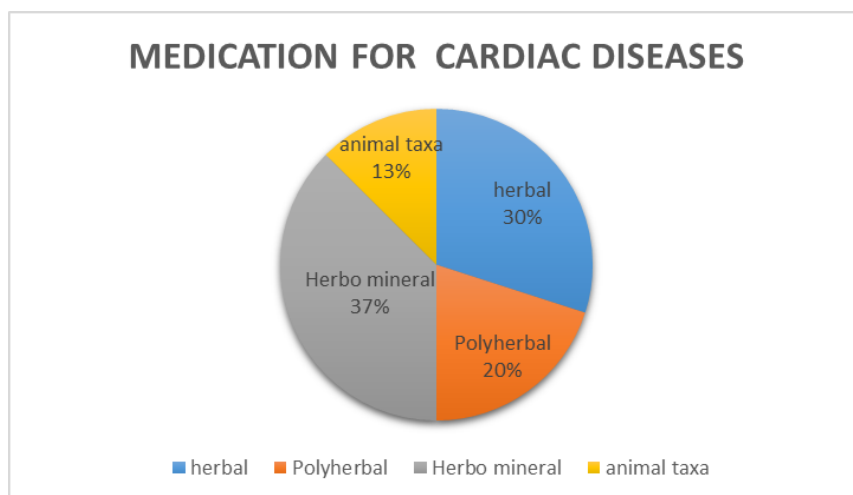
S.no	Name of the formulation	Dosage	Indication	References
1.	Thukthabaanam	17-35gm	Cardiac diseases	Anubava vaidhiya deva ragasiyam ^[9]
2.	Naagapaladhi thukthabaanam	17-35gm	Cardiac diseases	Anubava vaidhiya deva ragasiyam ^[9]
3.	Sangu parpam	1-2gm	Myocardial infarction	Sigicha rathina deepam
4.	Sirungi parpam	100mg	Angina pain	Siddha vaidhiya thirattu ^[10]
5.	Sirungi chenduram	65mg	Angina pain	Siddha vaidhiya thirattu ^[10]

Decoction using Goat's heart

Cut a Goat's heart into small pieces and add a pinch of *Cinnamomum verum*, nutmeg and mace powders, a pinch of salt and water and then boiled.^[17]

External medicine

Horn of prey, rose wood, dry ginger, thoor dhall, field beans. All these mix with hot water or alcohol and apply on the chest to relieve chest pain.^[17]



The study documented data regarding 40 formulations and they were classified into herbal, poly-herbal, herbo-mineral and animal based formulations. From the above information collected that 30% of the formulations were plant based, 20% of the formulations were poly herbal based, 37% of the formulations were herbo-mineral based and 13% of the formulations were animal taxa.

DISCUSSION

In Indian system of traditional medicine therapy plays an important part, it is consider as ally for strengthening the drug efficacy however the knowledge on that is poorly documented and less utilized. Siddha medicine gives importance to the conjunctive use of plants and minerals. For simple ailments, the Siddha Practitioners advices the initial use of herbs. If this does not prove effective, the judicious use of plants, minerals and animal products is advised. Siddha medicine has been used for the management of chronic diseases and degenerative conditions such as, collagen disorders and conditions of the central nervous system and non-communicable diseases like cardiovascular diseases, diabetes, hypertension etc. Its effectiveness in those situations has varied. Literatures related to Siddha are found exclusively in Tamil language as Palm leaf manuscripts and many of them remain undocumented.

CONCLUSION

The vast Siddha literature claims number of medicinal plants and formulation to be useful in cardiac diseases. In this review article, an attempt has been made to compose the ingredients and formulation used in siddha medicine to treat various types of heart diseases. Some of these have been scientifically validated for cardio protective. There are much focus on herbal,

poly-herbal, herbo-mineral formulation for treating cardiac diseases due to less side effects and safety when compared to modern medicine. Early detection of the diseases and use of these drugs can prevent it from progressing to a surgical state. But still intensive preclinical and clinical studies are need to evaluate the efficacy and toxicity of these formulation.

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