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**Siddha Formulation Thirimoorthi Chenduram:  
A Drug Review**

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**Abstract**

Siddha system of medicine is a science of life which includes health practices, approaches, knowledge, and beliefs, incorporating plant, animal and mineral based medicines, therapies, manual techniques, and exercises either applied singularly or in combination to prevent, treat and diagnose illness. The Siddha system of medicine described about 32 forms of internal medicines in Siddha text. Among these forms, Chendooram is the one form of internal medicine. The aim of this drug review is to provide scientific validation for the Siddha herbo metallic formulation thirimoorthichendooram. Thirimoorthi chenduram is a potent medicine widely used to treat anemia, edema, jaundice and diseases associated with a compromise in hemoglobin in clinical practice. A comprehensive literature search has been carried out to provide validation for pharmacological actions and medicinal uses of each ingredient of this medicine. Through this drug review it is evident that ingredients of thirimoorthi chendooram has great effect in the treatment of Anaemia, edema and jaundice which is supported by its pharmacological profile.

**Keywords:** Thirimoorthi chendooram, siddha medicine, herbo metallic reparation, Anaemia, edema, jaundice, haemoglobin

## Introduction

Siddha system of medicine is a science of life which includes health practices, approaches, knowledge, and beliefs, incorporating plant, animal and mineral based medicines, therapies, manual techniques, and exercises either applied singularly or in combination to prevent, treat and diagnose illness. This system was originated from the Tamil speaking areas and it was bestowed by the wisdom of 18 plus Siddhars<sup>[1]</sup>. Siddha systems deal with intense fundamental concept such as Five elements, three biological humours and seven body constituents for etiology, classification, pathology, diagnosis, and treatment of morbidities.

The classical text “Thirumantiram” defines medicine as the one that cures physical and psychological ailments, the one that prevents diseases and the one that ensures longevity. Medicines are one of the vital sources of Siddha System in which there are two major classifications so called Mooligai (herbal products), Thathu (inorganic substances) & Jeevam (animal products). The Thathu drugs were further classified as: 1. Uppu (Salts) (water-soluble inorganic substances or drugs that give out vapor when put into fire), 2. Pashanam (Arsenic drugs which does not dissolve in water but emit vapor when burnt), 3. Loham (Heavy metals which does not dissolve in water but melts when burnt<sup>[2]</sup>).

In this traditional system, several herbo-mineral formulations were used such as Parpam (oxide form of mineral/or metals), Chenduram (sulfide form of mineral/ or metals), Chunnam (a caustic oxide preparation) and Pathangam (a product of sublimation) to treat chronic and devastating diseases in which parpam and chenduram were frequently used and having high potential therapeutic values. Metals possess longer shelf life, greater efficacy with a little dose, and the potential therapeutic efficacy. The purification of these metals in the Siddha system of medicine cuts toxicity and enhances effectiveness<sup>[3]</sup>.

Chenduram is an oxidized product of metals or minerals, which are free from metallic residue of its parent substances. It appears in reddish color and the shelf life is about 75 years. Thirimoorthi

chenduram is a potent medicine consisting of Ayam (Iron), Kaantham, Mandooram, Tamarind juice, Punica granatum juice and Cissus quadrangularis juice widely used to treat anemia, edema, dropsy jaundice and diseases associated with a compromise in hemoglobin in clinical practice<sup>[4]</sup>.

This drug review gives evidence for its pharmacological action by describing the active constituents and chemical action of each ingredient used in this formulation.

**Research Design:** Drug Review on Literature

**Research Type:** Literature Review

**Research Period:** 03 Months

**Ingredients of drug:**<sup>[4]</sup>

Purified Iyapodi (Iron),  
Purified Gaandham (Magnetic oxide of iron),  
Purified Mandooram (Ferroso Ferric Oxide).  
Puliyangai Saaru (Tamarindus Indica)  
Pulippu Mathulai Saaru (Punica Granatum)  
Pirandai Saaru (Cissus Quadrangularis)  
Dried Aavarai Ilai (Cassia Auriculata) – For sealing

**Method of preparation**

Equal quantities of ayam, gaandham and mandooram is taken and grinded with tamarind juice, pomegranate juice, cissus quadrangularis juice each for 12 hours one by one. 10 or 12 pills were made and kept in an agal, sealed with aavarai leaf and was heated using kajapudam for 6 days.

**THERAPEUTIC USE:**

- Paandu (anaemia)
- Sobai (oedema)
- Kaamalai (jaundice)
- Conditions due to hemoglobin deficiency

**Clinical dosage:**

1 to 1 1/2 Kundri (130 to 195 mg)

**Adjuvant:**

Ghee or Honey

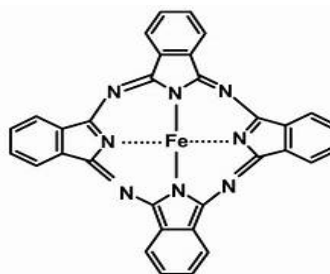
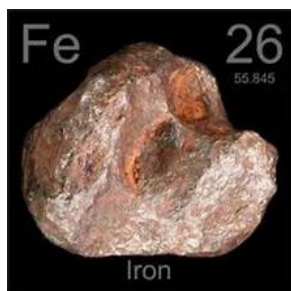
## Results and observation

### Ingredients of the drug

Tamil name	English name	Chemical name	Taste	Potency	Biotrans formations
Ayam	Iron	Ferrum	Astringent, mild sour, bitter	Hot	Pungent
Mandooram	Iron rust, impure oxide of Iron, Magnetite	Ferroso ferric oxide	Astringent	Hot	Pungent
Gaandham	Magnetic oxide of iron	Magnetite or Magnetic oxide	Astringent, mild sour, bitter	Hot	Pungent

Tamil name	Botanical name	Taste	Potency	Biotrans formations
puli	<i>Tamarindus indica</i>	sour	Hot	Hot
Madhulai	<i>Punica granatum</i>	sweet	cold	Sweet
Pirandai	<i>Cissus quadrangularis</i>	hot	hot	Hot

### 1. Ayam (Ferrum)



Ayam is also known as Ferrum (Iron) has the common properties like to cure Anemia, Leucoderma, Obesity, Anasarca, Indigestion, Jaundice, Gastric ulcers, Semen disorders, Diarrhea and induces appetite.

### Scientific validation of iron:

- Iron deficiency anaemia (IDA) is a significant challenge to global health. The absorption and bioavailability depend on the delivery vehicle being used. The particle size of iron salts has been observed to have a significant

impact on iron absorption. The surface area of iron compounds is increased by reducing their particle size, which improves their solubility in gastric juice and boosts their absorption.<sup>[5]</sup>

- Nanosized iron compound produces minimal organoleptic changes in food vehicles compared to water-soluble iron complexes. Thus, nanosized iron salts find potential applications in food fortification to reduce IDA.<sup>[6]</sup>

• With the rapid progress of nanotechnology, growing numbers of IONs are entering clinical trials. The interaction between IONs and the human immune system shaped the

biomedical application of IONs. Future targeted molecular imaging is anticipated based on current ION contrast agents. Slow-release iron supplements for treating anemia would be another significant advance in nanotechnology.

• **Kaantham (Magnetic oxide):**



• Iron oxide magnetic nanoparticles-loaded liposomes (LMNPs) are prepared, characterized and evaluated as a treatment regimen for Iron Deficiency Anaemia in Wistar rats the hematological parameters turn to normal values and the histopathological structures of the liver, spleen and kidney remain normal. This proves that liposome increases the bioavailability of MNPs. LMNPs demonstrate superiority as a therapeutic regimen for the treatment of Iron

Deficiency Anaemia among the tested iron formulations.<sup>[8]</sup>

• A wide range of applications using functionalized magnetic nanoparticles (MNPs) in biomedical applications, such as in biomedicine as well as in biotechnology, have been extensively expanding over the last years. Their potential is tremendous in delivery and targeting systems due to their advantages in biosubstance binding.<sup>[9]</sup>

**Mandooram (ferroso ferric oxide)**



• Ferroso ferric oxide has been shown to decrease bilirubin levels, a key indicator of jaundice

• Antioxidant properties: Iron(III) oxide's antioxidant properties can help reduce oxidative stress, which can contribute to jaundice.

• Studies suggest that ferrous ferric oxide can improve liver function, promoting the clearance of bilirubin and other toxins

• Ferroso ferric oxide can increase the activity of glucuronyl transferase, an enzyme essential for bilirubin conjugation and excretion<sup>[10]</sup>.

## Conclusion

This drug review gives the scientific validation of the ingredients in the medicine, thus proving its haemopoietic activity through various studies conducted in Iron deficiency anaemia. Treating anaemia is to be prioritized since it can prevent its complications like edema and jaundice and moreover, Iron oxide magnetic nanoparticles demonstrate superiority as a therapeutic regimen for the treatment of Iron Deficiency Anaemia among the tested iron formulations because of its minimal organoleptic changes. Therefore further preclinical and clinical studies is to be conducted for its wide acceptance among the public.

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