



Synergistic action of siddha medicine *Madhulai manapagu* and *Annabedhi chendooram* in the treatment of iron deficiency anaemia

Raj Mohan M.S*., M. Pavithra., G.S. Nandhini., M.Mani Bharathi

Department of *Saatam sarntha maruthuvam nanju nool* (Forensic Medicine and Toxicology)

Sivaraj Siddha Medical College, Salem, Tamilnadu, India

*Corresponding author: drrajmohanmd@gmail.com

Abstract

In India, around 49.5 percent of the women and 42 percent of children are affected by iron deficiency anaemia. Iron deficiency anaemia is due to lack of iron and vitamin C. Iron deficiency is more prevalent in women during fertility period in the age group of 20 to 45. Siddha medicine is one of the traditional medicines followed in southern parts of the India. In siddha medicine plants, animals, mineral salts are used to prepare drugs to treat diseases. In siddha literature iron deficiency anaemia is treated by *Madhulai manapagu* and *Annabedhi chendooram*. *Madhulai manapagu* is purely herbal formulation used in treating anaemia, nausea, vomiting and burning sensation in the palm and sole. *Annabedhi chendooram* (incinerated iron sulphate) is used to treat anaemia, fever, diarrhoea and jaundice. The *Madhulai manapagu* and *Annabedhi chendooram* are basically having astringent property which makes them work synergistically in eradicating iron deficiency anaemia. *Annabedhi chendooram* is a Herbo - mineral preparation with longer shelf life and increased therapeutic efficacy compared to herbal formulation. The present study is about the interrelationship between *Madhulai manapagu* and *Annabedhi chendooram* in treating iron deficiency anaemia.

Keywords: *Madhulai manapagu*, *Annabedhi chendooram*, iron deficiency anaemia

Introduction

Iron deficiency is the common prevalent nutritional deficiency world wide for women during fertility period of age 20 to 45 and children 1 to 2 years. ^[1] Although current treatments for iron deficiency anaemia can be effective, they commonly fail in paediatric patients because they do not complete their treatment due to metallic taste. To overcome this, the medication should be developed in palatable taste, so that it will be tolerated better.

The normal serum level of iron in an adult is ranged from 55 to 160 microgram per decilitre. Decrease in the serum level of iron from the above range leads to iron deficiency. Iron deficiency is defined as a condition in which there are no mobilizable iron stores and in which signs of a compromised supply of iron to a tissues. The more severe stages, iron deficiency is associated with the anaemia. It adversely affect the behaviour and the physical growth of infants and

children. Iron deficiency anaemia during pregnancy leads to increase in perinatal risk for mothers and neonates and increases overall infant mortality and also leads to premature delivery.^[7] By the lab diagnosis, it affects the normal blood levels of haemoglobin due to the less oxygen carrying compound in red blood cells. Iron deficiency anaemia is developed by excess loss of iron from the body and poor reabsorption as a result of either inadequate diet or intestinal pathology.

In siddha literature anaemia is called as *paandu*. It is also called as a *venmai noi*, *velupu noi*. Based on a siddha literature sour and salt taste decreases the erythropoiesis in the bone marrow. Complication like hepatomegaly, tuberculosis, worm infestation leads to iron deficiency anaemia as a secondary cause. In siddha pathology it is divided into five types. They are *vaadha paandu*, *pitha paandu*, *kaba paandu*, *thirithoda paandu* and *vida paandu*.^[9] Except *vida paandu* all types of paandus are cured. Because the *vida paandu* is due to the food allergy which leads to pale skin, vomiting, cough, dyspnoea, dysentery, loss of taste and oedema in body. This also leads to secondary complications like diabetes mellitus and asthma^[9].

Materials and Methods

Madhulai:

Madhulai is a fruit bearing deciduous shrub. It grows upto 6 to 10m. The whole plant of the *Madhulai* is used in the treatment of vomiting and diarrhoea. The *Madhulai* fruit is like globular berries, with a lower hillock. The unripened fruit of *Madhulai* is used to cure dysentery and diarrhoea. The fruit is used to cure nausea, vomiting, *kabam*, *pitham*, infertility, bitter taste, indigestion, fever, heart burns and fatigue.^[6] It contains mainly oxygen radical absorbents capacity (ORAC) for the effect of free radicals and also contains antioxidants like anthocyanins, polyphenols tannins as well as other substances such as vitamins and minerals.

The chemical constituents of *Madhulai* are thiamine, riboflavin, niacin, vitamin B6, vitamin C, E and K. The most predominant content is

vitamin C which is used to support the absorption of iron in the intestine. It contains minerals such as calcium, iron, magnesium, phosphorus, potassium, sodium and zinc. *Madhulai* seed oil contains Punic acid, palmitic acid, stearic acid, oleic acid.^[7]

Madhulai manapagu helps to maintain the good health in pregnant ladies and the foetus in the intrauterine life. It increases the haemoglobin level in the blood. It also used in the treatment of gestational hypertension. The presence of rich fibre contents helps in relieving constipation. Due to the sweetness it decreases the elevated temperature in pregnant women. It helps in the strong implantation of the embryo during the pregnancy time. It also protects the foetus from the brain damage during the intrauterine life.

Preparation of *Madhulai manapagu*:

Sugar candy - 3lb

Rose water – 3lb

Madhulai charu – 1lb

Honey – 1lb

All these things are added together and boiled to get a syrup consistency. The dosage of *Madhulai manapagu* is 1 to 2 spoons 3 times /day. It is used to treat burning sensation in the palm and sole, *paandu* (anaemia) and *arusi* (loss of taste sensation).^[2]

Preparation of *Annabedhi* (iron sulphate)

Annabedhi is prepared from the combination of iron and sulphuric acid. It is bitter in taste and easily soluble in water. It has antipyretic, astringent action along with many nutritive values. *Annabedhi* has a distinguishing power to dissolve the food into liquid form. It is used for treating piles, tumour, deep muscular pain, indigestion, ascities, and hepatosplenomegaly, jaundice, dropsy, amenorrhoea, gonorrhoea, fever, boils, intermittent fever, chronic cough and worm infestation.^[3]

Purification of *Annabedhi*:

First *Annabedhi* is dissolved in water completely, to that a small quantity of dilute sulphuric acid is added, mixed well and filtered. Mixture is heated till it attains the consistency of dry salt.

Preparation of *Annabedhi chendooram* (Incinerated iron sulphate)

The *Annabedhi chendooram* was prepared by dissolving purified *Annabedhi* in lemon juice and kept for one day in sunlight. Then it was ground in a mortar, calcined and dried in sunlight. Dried calcined *Annabedhi* was transferred to a mudpot closed with another suitable mudpot; sealed using a clay cloth and it is burnt with the help of cow dung cakes to get the chendooram. The dosage of *Annabedhi chendooram* is 65 to 130 mg as per siddha literature.^[3]

Discussion

Both *Madhulai manapagu* and *Annabedhi chendooram* are having astringent property. According to Siddha concept astringent taste will increase the RBC production by inducing erythropoiesis in the bone marrow. Since *Madhulai* and honey is very rich in vitamin c and antioxidants it helps in absorption of *Annabedhi* (*Iron sulphate*) soon and helps in recovery of the patients for better than other medicines.

Conclusion

The combination of *Madhulai manapagu* and *Annabedhi chendooram* are both likely to be prescribed for women mainly during pregnancy and children with malnutrition because both drugs are acting synergistically so that anaemia can be eradicate completely, quickly without any side effects. Around 49.5 percent of the women and 42 percent of children are affected by iron deficiency anaemia.^[10] With the help of these medicines people affected by iron deficiency anaemia can be reduced. Both medicines are simple, easy to prepare and palatable in taste without producing constipation. This special combination is prescribed in the Amma magaperu sanjeevi thitam in the government hospitals of Tamilnadu.

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