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Review of “Mahaveera Mezhugu”- A Siddha herbomineral formulation

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Abstract

Siddha system of medicine is classified into 32 types of internal medicine and 32 types of external medicine. Mezhugu is one among the type of internal medicine. The Siddha herbomineral preparation *Mahaveera mezhugu* found in the classical text book *Siddha vaithiya thirattu*, is indicated to treat arthritis and skin diseases. The review seeks to establish the documented literature on the therapeutic effectiveness of the *Mahaveera mezhugu* and it was done by collecting various Siddha literature and published research articles. The results showed that the ingredients of Mahaveera mezhugu have anti inflammatory, anti pyretic, anti microbial, anti viral, anti cancer, anti oxidant actions etc. In conclusion Mahaveera mezhugu ingredients have proven pharmacological effects against arthritis and skin diseases.

Keywords: Siddha, Arthritis, Skin disease, *Mahaveera mezhugu*, Literature review.

Introduction

Siddha system of medicine is based on holistic view of treatment which promotes and supports equilibrium in different aspects of human life. The Tamil sages known as Siddhars, who belong to the southern regions of India and are known for their beliefs and practices. Siddhars have

employed their wide understanding of iatrochemistry, metals, minerals and plants to great use. Siddha postulates that the physical structure of the universe and man are basically made up of five elements. These five elements are earth, water, fire, air, sky are present in different proportions in all living and non living things, including drugs and diet. Siddha medicine is

classified into 32 types of internal medicines and 32 types of external medicines. Mezhugu is one among the 32 internal medicines and has shelf life of five years. Mezhugu is of two types, Araippu mezhugu [obtained by grinding drugs] and Churukku mezhugu [obtained by heating them by adding oily substance].⁽¹⁾One such Siddha herbomineral preparation " MAHAVEERA MEZHUGU", a type of araippu mezhugu consists of Purified Veeram (Corrosive sublimate), Purified Pooram (Calomel), Purified Lingam (Cinnabar), Pachchai Karpooram (Borneo camphor), Korasanai (Ox bile), Kumkumapoo (*Crocus sativus*), Chithramoolam (*Plumbago zeylanica*), Chukku (*Zingiber officinale*), Milagu (*Piper nigrum*), Thippili (*Piper longum*), Murungaipattai saaru (Bark extract of *Moringa oleifera*), Cow's milk and Honey. This article reveals the detailed review of the Siddha herbomineral formulation *Mahaveera mezhugu*, which is quoted in the Siddha classical text *Siddha vaithiya thirattu* indicated for vadha diseases and venereal diseases and also indicated for heart disease, epilepsy, delirium, skin disease, facial palsy, uterine disorders ⁽²⁾.

Materials and methods:

Scientific evidence on pharmacological activities of Mahaveera mezhugu was reviewed by searching published research articles. Information about herbals, minerals in Mahaveera mezhugu were retrieved from Siddha literatures in National Institute of Siddha library, Chennai.

Ingredients of Mahaveera Mezhugu⁽³⁾:

1. Purified Veeram (Hydragyrum perchloride)- 35 grams
2. Purified Pooram (Hydragyrum subchloride)- 35 grams
3. Purified Lingam (Red sulphide) - 35 grams
4. Pachaikarpooram (Borneo camphor) - 4.2 grams
5. Korosanai (ox bile) -4.2 grams
6. Chukku (*Zingiber Officinale*) - 35 grams
7. Milagu (*Piper nigrum*) - 35 grams

8. Thippili (*Piper Longum*) - 35 grams
9. Kungumapoo (*Crocus sativus*) -4.2 grams
10. Chiththiramoolam (*Plumbago zeylanica*) - 210 grams
11. Murungaipattai Saaru (*Moringa oleifera*)
12. Cow's milk (Milk of *Bos indicus*)
13. Honey (*Apis mellifera*)

Preparation: Take the drug purified Veeram and treats with murungaipattai juice and then make into powder. Separate purified Lingam and Pooram and get into powder. Purify the ingredients Chukku, Milagu, Thippili and Chittramoolam and then grind and seive. After that all the ingredients together and grind in kalvam with milk and allow it to dry. Add Kungumapoo, Korosanai, Pachai karpooram and make into powder. Finally, grind all the powdered ingredients with honey until it gets the consistency of mezhugu.

Dose: 1-2 payaralavu(65-130mg), twice a day

Adjuvant: Palm jaggery

Results

Literature review of the drug:

1. Mercurous chloride- veeram:

Description: Mercurous chloride is called as veera padanam. It occurs commonly as a coating of minute crystals upon other minerals. It has been deposited usually from hot solution, at times probably formed by sublimation, also occurs as a mineral of secondary origin.

Chemical name: Mercurous chloride

Formula - HgCl or Hg₂Cl₂: Chlorine – 15%, Mercury – 85%.

Colour -white, yellowish white, brown yellowish grey⁽⁴⁾.

Potency: Hot, **Taste:** Bitter

Actions: Tonic, Anti-septic, Ulcerative.

Uses: Perchloride of mercury is used to cure the following diseases:

Gastric ulcer, leprosy, severe vatha diseases and morbid growth of flesh, Throbbing pain

Medicinal preparation	Pharmacological actions
Veera mezhugu	Antioxidant, Anti- cancer ⁽⁶⁾
Vajra kandi chenduram	Anti inflammatory, Anti pyretic, Anti viral ⁽⁷⁾
Pavalaveera chunnam	Hepatoprotective, Hypolipidemic, Diuretic, lithotriptic ⁽⁸⁾

2. Mercurous subchloride- Pooram

It is prepared by the combination of Rasam and salt

Potency: Hot, **Taste:** Salty

Actions: Laxative, tonic, antiseptic and diuretic properties, It is also an after excessive bile producer.

Uses:When the calomel is taken along with jaggery for seven days. It cures various types of throbbing pains, throbbing pain in the lumbar

Medicinal preparation	Pharmacological actions
Karpoora chindamani mathirai	Analgesic, Anti-pyretic, Anti-inflammatory ⁽⁹⁾
Linga chenduram	Anti-microbial ⁽¹⁰⁾

3. Mercuric sulphide- Lingam:

Description : Cinnabar occurs in veins of rocks which have commonly a sedimentary origin, as slates, sand stones or lime stones. Cinnabar is characteristic of the low temperature hydrothermal process. It Crystallizes in the trigonal system. Found largely as embedded grains, massive some times as on earthy coating.

Chemical name- Mercuric sulphide

Formula - HgS, Sulphur 13.8, Mercury 86.2⁽⁴⁾

associated diseases, venereal diseases, bubo in the groins occurs to the female and male due to forcefulness of sexual contact.^[5]

Pharmacological actions:

The following medicinal preparations contain “Veeram” as a key ingredient, have proven pharmacological effects.

region, burning sensation, ulcer due to disorders of vatha humour, hepatomegaly, pyrexia, jaundice, basillary dysentery, dropsy, chronic ulcers, venereal diseases, indigestion, vomiting, diarrhoea, worm infestation, rheumatism, itching, constipation scabies etc. It is also effective in the treatment of headache.⁽⁵⁾

Pharmacological actions:

The following medicinal preparations contain “Pooram ” as one of the ingredients, have proven pharmacological effects.

Color - cochineal red, often including brownish red and lead grey.

Taste: Tasteless, **Potency:** Hot

Action: Tonic

Uses: This preparation is effective in the treatment of diarrhoea, pyrexia, delirium, urticaria, diuresis, tuberculosis, scabies, unknown insect bites, syphilis, leprosy, eczema, skin diseases, throbbing pain (soolai) and vatha diseases.⁽⁵⁾

Pharmacological actions:

The following medicinal preparations contain “Lingam” as a key ingredient, have proven pharmacological effects.

Medicine name	Pharmacological actions
Linga chenduram	Anti-pyretic, Analgesic, Anti-inflammatory ⁽¹¹⁾ , Anti-cancerous ⁽¹²⁾
Sathi linga mathirai	Anxiolytic, Anti-microbial, Anthelmintic, Anti-pyretic, Anti-oxidant, Anti-inflammatory ⁽¹³⁾
Padigalinga chenduram	Anti-diarrhoeal, Anti-spasmodic, Anti-pyretic, Anti-microbial ⁽¹³⁾

4. Borneal camphor- Pachai karpooram

Description: Borneo camphor is one of the twenty five types of Karasaara. It is soluble in atmospheric air. It has pleasant odour. Cooling agent.

Taste: Astringent, salty **Potency:** cold.

Actions: Expectorant, tonic, demulcent.

Uses: The borneal camphor is effective in eight types of gastric ulcers, vatha disease and joint pains and kapha.⁽⁵⁾

Pharmacologica of Borneal Camphor:

- I. Anti fungal activity⁽¹⁴⁾
- II. Anti-oxidant activity⁽¹⁵⁾

5. OX Bile- Korosanai:

Gorochana refers to a stone found in cattle, such as the bull, cow, ox, and yak. Its presence in the

6. Dried ginger - *Zingiber officinale*. *Rosc*

Taxonomic Classification:

Kingdom	Plantae
Class	Liliopsida
Subclass	Zingiberidae
Order	Zingiberales
Family	Zingiberaceae
Genus	Zingiber
Species	Officinale

animal is reputedly indicated by the snoring or other nocturnal sounds made by the animal in its sleep.⁽¹⁶⁾

Properties: The bile has got bitter, laxative, mucolytic and hypothermic properties.⁽⁵⁾

Cow bile:

○ Bile contains bile acids, which are critical for digestion and absorption of fats and fat-soluble vitamins in the small intestine. Many waste products, including bilirubin, are eliminated from the body by secretion into bile and elimination in feces.

○ Bile is a fluid that is made and released by the liver and stored in the gallbladder. Bile helps with digestion. It breaks down fats into fatty acids, which can be taken into the body by the digestive tract⁽¹⁶⁾

Botanical Description:

It is a herbaceous perennial with upright stems. Leaves are arranged in two ranks on each stem. The inflorescence grows on a separate stem from the foliage stem and forms a dense spike. The bracts are green with translucent margins; flowers

are yellow green with purple lips and cream colored blotches^[17]

Parts Used: Rhizome

Taste: Acrid, **Character:** Hot, **Division:** Acrid

Actions: Stimulant, Stomachic, Carminative

Pharmacological actions:

Active constituents ^[15]	Pharmacological activity
6-gingerol	Anti oxidant ^[18] , anti inflammatory, analgesic ^[19] , anti fungal ^[20] , anti platelet activity ^[21]
Zingiberene	Anti microbial ^[22] , anti cancer, anti ulcer, anti oxidant ^[23]
6-shogaol	Anti emetic ^[23] , Anti fungal, anti inflammatory, vaso dilator ^[24]
-bisabolene	Anti microbial, anti ulcer ^[23]
Curcumene	Anti microbial, anti cancer, anti ulcer ^[23]

Ethnomedicinal uses of *Zingiber officinale*:

Ginger has a long history of medicinal use dating back 2,500 years in India and China for headaches, nausea, rheumatism and cold. As per the Siddha medicine, it is considered as an excellent rejuvenating herb in the processes of rhizome soaked with honey daily taken at the morning for age preventing and brightness of vision, preventing of skin wrinkling and in

albinism. In Ayurveda, it is considered as valuable medicine because of its action as rubefacient, anti-asthmatic and stimulant to the gastrointestinal tract (Kirtikar and Basu, 1975). Chinese medicine as spicy and hot, ginger is claimed to warm the body and treat cold extremities, improve a weak and irregular pulse, address a pale complexion and strengthen the body after blood loss^[17]

7. Milagu- *Piper nigrum* Linn.

Taxonomic Classification:

Kingdom	Plantae
Class	Magnoliopsida
Subclass	Magnoliidae
Order	Piperales
Family	Piperaceae
Genus	Piper
Species	Nigrum

Botanical Description: It is native to Malabar, a region in the Western Coast of South India. Stems are stout climbing and very flexible. Leaves are elliptical to orbicular-ovate, younger leaves are cordate and all are palmately veined with 5-7 veins. Flowers are small and borne on long

pendulous spikes from each node. The flowers are not showy. The berries first turn green, then red, finally turning black.^[17]

Parts Used: Fruit

Taste: Bitter, Acrid, **Character:** Hot, **Division:** Acrid

Actions: Carminative, Antiperiodic, Rubefacient, Stimulant, Resolvent, Antivatha, Antidote

Pharmacological actions:

Active constituents	Pharmacological activity
Piperine	Anti inflammatory, analgesic ^[25] , antioxidant ^[26] , immunomodulator, antitumor activity ^[27] , anti cancer ^[28] , CNS stimulant, anti pyretic
Pellitorin	Anti bacterial ^[29] , anti cancer ^[30]
Pergumidiene	Anti bacterial ^[29]

Ethnomedicinal uses of *Piper nigrum*:

The fruit is an important spice and flavouring agent and has also been used in the treatment of cholera and dyspepsia, as well as a variety of gastric ailments and arthritic disorders (Jung and Shin, 1998). Black pepper oil can be used to help in the treatment of pain relief, rheumatism, chills, flu, cold, increase circulation, exhaustion, muscular ache, physical and emotional coldness, nerve tonic and fevers. According to Ayurveda,

fruit is useful in treatment of asthma, chronic indigestion, colon toxins, obesity, sinus congestion, fever, intermittent fever, cold extremities, colic pain, piles, worms and sore throat. Externally, fruit paste extract can be applied to boils and other skin diseases. A pinch of pepper powder mixed with clove oil can be put in the caries to alleviate toothache. The finely ground pepper mixed with honey taken twice a day is beneficial in amnesia or dullness of intellect.^[17]

8. Thippili - *Piper longum* Linn.

Taxonomic Classification:

Kingdom	Plantae
Class	Magnoliopsida
Subclass	Magnoliidae
Order	Piperales
Family	Piperaceae
Genus	Piper
Species	Longum

Botanical Description: It is a small shrub with a large woody root and numerous creeping, jointed stems, thickened at the nodes. The leaves are alternate, spreading, without stipules and blade varying greatly in size. The lowest leaves are 5-7 cm long, whereas the uppermost 2- 3 cm long. The flowers are in solitary spikes. The fruits are berries, arranged in fleshy spikes thick, oblong, blunt and blackish green in color^[17]

Part Used: Fruit

Taste: sweet, **Character:** Cold potency, **Division:** Sweet

Actions: Stimulant, Carminative

Pharmacological actions:

Active constituents	Pharmacological activity
Piperine	Immuno modulatory, Anti-tumor ^[31] , Anti depressant ^[32] , Anti microbial, cytotoxic ^[33]
Piperlongumine	Barrier protective ^[34] , anti melanogenic ^[35] , anti thrombotic ^[36] , anti hyperlipidemic ^[37] , neuroprotective ^[38]

Ethnomedicinal Uses of *Piper longum*:

In the traditional Indian system of medicine (Ayurveda and Siddha), a mixture of the dried fruits of *Piper nigrum*, *Piper longum* and the dried rhizomes of *Zingiber officinale* in 1:1:1 proportion is commonly known as "Trikatu" (Dash and Junius. 1987). Trikatu is the most popular formulation used to mitigate the diseases due to kapha dosha, to digest ama and also it increases the bioavailability of the drug, when it is used as a complementary medicine. In traditional

Indian Medicinal system, fruits have been advocated to be beneficial in diseases of respiratory tract infections like cough, bronchitis, asthma, malarial fever, diarrhoea and jaundice (Krishnamurthi, 1969). Root and fruit decoction is a good remedy for treating gonorrhoea, menstrual pain, tuberculosis. sleeping problems, respiratory tract infections, chronic gut-related pain and arthritic conditions. Pippali is beneficial as a brain tonic and in the diseases of vata. The root decoction is effectively used in sciatica, hemiplegia and against snake poison.^[17]

9. Kungumapoo - *Crocus sativus* Linn.**Taxonomic Classification:**

Kingdom	Plantae
Class	Monocotyledonae
Subclass	Liliidae
Order	Liliales
Family	Iridaceae
Genus	Crocus
Species	Sativus

Botanical Description: *Crocus sativus* L. (Iridaceae), commonly known as saffron, is a perennial stemless herb that is widely cultivated in Iran and other countries such as India and Greece. Commercial saffron comprises the dried red stigma with a small portion of the yellowish style attached.^[39]

Parts Used: Flower

Taste: Bitter, **Character:** Hot, **Division:** Acrid

Actions: Stimulant, Stomachic, Anodyne, Antispasmodic, Emmenagogue.

Pharmacological actions:

Active constituents	Pharmacological activity
Safranal	Anti convulsant ^[40] , anxiolytic and hypnotic ^[41] , anticancer ^[42]
Crocin	Antihyperglycemic, antioxidant ^[43] , anticancer ^[44] , antiepileptic activity ^[45] , hypolipidemic ^[46] , antifibrotic ^[47] , antidepressant ^[48] , antiviral ^[49]
Picrocrocin	Antiviral ^[49] , anticancer ^[42]
Crocetin	Antitumor ^[50] , antioxidant ^[51] , neuroprotective ^[52] , anti-cancer, anti-atherosclerotic effect ^[53]

Ethnomedicinal uses of the crocus sativus:

The stigmas of the plant are mainly used for its medicinal properties extensively in traditional medicine for various purposes, as aphrodisiac, antispasmodic, expectorant, for treatment of stomach ailments, reducing stomachache and for relieving tension. In Persian traditional medicine, it is used for depression. It is also used to treat

insomnia and in the treatment of the measles, dysentery, jaundice, cholera etc. Topically it is applied in the form of paste to treat skin diseases like acne. Charaka used the powdered stigmas as one of the drugs in the treatment of cataracts, night blindness and poor vision. Sushruta used it as a blood purifier and to treat skin eruption.[54]

10. Chithramoolam - *Plumbago zeylanica* Linn.

Taxonomic Classification:

Kingdom	Plantae
Class	Dicotyledonae
Subclass	Gamopetalae
Order	Caryophyllales
Family	Plumbaginaceae
Genus	Plumbago
Species	Zeylanica

Botanical Description: *P. zeylanica* is a subsaccharid, pretty perennial shrub with semi woody stems and numerous branches. Its leaves are simply alternate, ovate, narrowed into petiole, oblong-lanceolate and acute. Its flowers are borne in spikes, whereas the rachis of the spike is pubescent or glandular. The Corolla white tube is long and slender. The roots are cylindrical and are irregularly bent having transverse shallow fissures

at bents. Its fruits are oblong and its capsules are enclosed by persistent viscid calyx.^[55]

Part Used: Root

Taste: Acrid, **Character:** Hot, **Division:** Acrid

Actions: Anti-period, Diaphoretic

Pharmacological actions:

Active constituents ^[17]	Pharmacological activity
Plumbagin	Anti microbial ^[56] , Antioxidant ^[57] , Antidiabetic ^[58] , Anti H.pyloric activity ^[59] , Anti cancer ^[60] , Anti malarial ^[61]
- sitosterol	Anti inflammatory, Cytotoxic ^[62]

Ethnomedicinal uses of the *Plumbago zeylanica*:

It has been used as a remedy for skin diseases, infections and intestinal worms viz. leprosy, scabies, ringworm, hookworm, dermatitis, acne, sores and ulcers since time immemorial. The traditional systems of medicine in different parts of the continents have been utilizing all parts of *P. zeylanica* for a variety of treatments. In West Africa the root or the leaves crushed with lemon juice, are used as a counter-irritant and vesicant. In Nigeria the roots pounded with vegetable oil are used as a treatment for rheumatic swellings. Powdered bark, root or leaves are used as a conventional method to treat gonorrhoea, syphilis, tuberculosis, rheumatic pain, swellings and wounds treatment system in Ethiopia In other

regions of Africa a paste of the root in vinegar, milk and water is used to treat influenza and black water fever; root infusion is taken orally to treat shortness of breath; root decoction with boiled milk is swallowed to treat inflammation in the mouth, throat and chest. In Mauritius and Rodrigues a root decoction is also used to treat diarrhoea and dyspepsia. In India *P. zeylanica* commands an important place among medicinal herbs in India since ancient times. Ayurveda, the Indian indigenous system of medicine dating back to the Vedic ages (1500-8000 BC), has described chitraka as tumor-negating and anti-dyspeptic. In Charaka Samhita (an important work on Ayurvedic system of medicine) *P. zeylanica* has been categorized as an appetizer, anti-saturative, antianorexic, anti-haemorrhoidal and pain-reliever.^[63]

11. Murungaipattai -*Moringa oleifera* Lam.**Taxonomic Classification:**

Kingdom	Plantae
Class	Magnoliopsida
Subclass	Dilleniidae
Order	Brassicales
Family	Moringaceae
Genus	Moringa
Species	oleifera

Botanical Description: *Moringa oleifera*, Lam syn. *M. pterygosperma*, Gaertn (Family – Moringaceae), is a small or medium-sized tree, attractive enough to be a focal point in the tropics and sub-tropics owing to its creamy – white, sweetly scented flowers and light –green, tripinnately compound foliage. It is a native to India, occurring wild in the sub-Himalayan regions of Northern India and cultivated throughout the country.^[64]

Part Used: All parts

Taste: Bitter, Sweet, Astringent, **Character:** Cold potency, **Division:** Pungent

Actions: Abortifacient, Antispasmodic, Expectorant, Diuretic, Stimulant.

Pharmacological actions:

Botanical name	Pharmacological actions
<i>Moringa oleifera</i> (bark extract)	Anti bacterial activity ^[65] , Antioxidant ^[66] , Anti ulcer ^[67] , Anti urolithiatic ^[68] , Anti cancer ^[69]

Ethnomedicinal uses of the *Moringa oleifera*:

Bark paste is used as a drink for constipation and haemorrhoids. Leaves of moringa are applied as poultice to sores and in treatment of anemia and menstrual disorders. Young leaf paste with curd, is used internally for abdominal pain while externally for sprains. According to Materia Medica, a compound spirit made from equal parts of roots of Moringa and orange peel acts as carminative and stimulant in nervous debility, paralytic afflictions, epilepsy and hysteria.^[64]

12. Honey - *Apis mellifera*

Actions: Demulcent, Laxative, Astringent, Expectorant, Stomachic, Hypnotic.

Pharmacological actions:

Name	Pharmacological actions
Honey	Antibacterial, Antioxidant, Antimelanogenic, Anticancer activity ^[71] , Anti Microbial activity, Anti Viral ^[72]

Conclusion

The presence of various chemical constituents in ingredients of “Mahaveera mezhu” are primarily responsible for the drugs pharmacological effects such as antioxidant, anti-inflammatory, anti pyretic, anti microbial, anti fungal, analgesic, anti cancer, anti ulcer, anti depressant, neuroprotective, anti bacterial, hypolipidemic, anti fibrotic, anti viral, anti melanogenic, anti spasmodic, anti diarrhoeal activity. The pharmacological effects of these showed that Mahaveera mezhu has proven to be an effective siddha herbomineral formulation for arthritis, epilepsy, delirium, skin disease, facial palsy and uterine disorders.

Uses: Drinking of honey with rainwater in the morning is very much beneficial to health. Honey which is newly formed increases the body weight, and old honey decreases the body fat and thus body weight. Honey helps in regulating the body secretions and cools the temperament of a person. It increases the appetite, memory and may be used as an absorbent. In Siddha system of medicine, it is used to treat obesity. One-year-old honey produces beneficial effects in patients suffering from obesity if used for a couple of months. With the combination of ‘Triphala’ (*Terminalia chebula*, *Terminalia bellerica* and *Emblica officinalis*), it is beneficial in hair fall, tonsillitis and in the oral ulcer.^[70]

Conflict of interest: Nil.

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