



A Polyherbal Siddha formulation *Mudakkaruththaan Ilakam* – A Potential food Supplement for Arthritis

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ABSTRACT

As per the siddha literature Aathma Ratchamirtham, the drug Mudakkaruththaan ilakam is used in treating vatha noigal. Mudakkaruththaan is also used in treatment of vettai, vellai, pungalmelerivu, mudakku, sori, vangu, vayitru vali, kanpugachal, megasoolai, marbukoothu, maradaippu, neerkuthu, andavatham, utkanthal and malakattu^[1]. As per *Gunapadam mooligai* text book mudakkaruththaan is used in treating keel, sinaippu, kiranthi, karappan, kaalvadiyai patriya vali^[2]. Ilakam are linctuses or confections and sweetened extracts, equivalent to confections, electuaries and conserves of the earlier Western Pharmacopoeias^[3]. The term nutritional supplementation includes the use of vitamins, minerals and other food factors to support good health as well as preventing or treating illness. The key functions of nutrients like vitamins and minerals in the human body revolve around their role as essential components in enzymes and coenzymes. The key concept is to supply necessary support or nutrients to allow the enzymes in a particular tissue work at their optimum levels^[4]. This review article deals with the nutritional supplements of Mudakkaruththaan Ilakam used in the treatment of vatha noigal (arthritis).

Keywords:

Mudakkaruththaan ilakam, nutritional supplements, arthritis.

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INTRODUCTION

Osteo arthritis is a chronic progressive degenerative disease affecting mainly the articular cartilage of the big weight bearing joints of the body mainly in the aged individuals. It is the most common form of joint diseases [5]. Although primarily seen in the elderly, there is a 35% incidence in the knee as early as age 30. Its incidence increases dramatically with age. Surveys have indicated that over 40 million Americans have osteoarthritis, including 80% of persons over the age of 50. Under the age of 45, osteoarthritis is much more common in women [4]. There is an ever – growing appreciation of the major role nutrition plays in determining the level of health.

Pothu Gunam of Mudakkaruththaan:^[2,6]

குலைப் பிழப்பு சொறி சிரங்கு வன்கரப்பான்
காலைத் தொடுவாய்வுங் கன்மலமும் - சாலக்
கடக்கத்தா னோடிவிடுங் காசினியை விட்டு
முடக்கற்றான் றன்னை மொழி.

- (அ. கு)

INGREDIENTS OF MUDAKKARUTHTHAAN IL-AKAM

The ingredients of Mudakkaruththaan Ilakam are as follows [1].

1. Mudakkaruththaan Ilai (*Cardiospermum heliacabum*.Linn)
2. Kalarchivirai paruppu (*Caesalpinia bonduc*.Linn)
3. Mukkirattai Ver (*Boerhavia diffusa*.Linn)
4. Chukku (*Zingiber officinale*.Linn)
5. Milagu (*Piper nigrum*.Linn)
6. Thippili (*Piper longum*.Linn)
7. Kadukkai (*Terminalia chebula*.Linn)
8. Nellikkai (*Phyllanthus emblica*.Linn)
9. Thandrikkai (*Terminalia bellirica*. Linn)
10. Karuppukatti (*Borassus flabellifer*.Linn)
11. Vilakkennai (*Ricinus communis*.Linn)

NUTRITIONAL VALUES OF MUDAKKARUTHTHAAN ILAKAM

Mudakkaruththaan Ilai (Leaves of *Cardiospermum heliacabum*)

Nutritional values per 100 g - Potassium-1.59 %, sodium-0.28 %, calcium- 2.48 %, zinc - 1.30 ppm, copper -0.21 ppm, iron- 75.72 ppm, manganese – 12.78 ppm, boron - 1.02 ppm, molybdenum – 0.2 ppm, protein – 4.7g, fat-0.6g, carbohydrates-9.1g, energy value-61Kcal and vitamin - C - 86.19±1.96 mg^[7].

Kalarchi Paruppu (Kernel of *Caesalpinia bonduc*)

Nutritional values per 100 g - energy value -73.6%, crude fibre - 3.3 mg/g, total fat -3.6%, free aminoacids -1.82%, protein - 17.6% carbohydrates -18.4%, free fatty acid -0.03 mg/g, vitamin E -6.09 µg/g, vitamin C- 4.2 µg/g, thiamine 10.6 µg/g, niacin- 22.6 µg/g, riboflavin- 89.6 µg/g and cellulose -2.59^[8].

Mukkirattai Ver (Roots of *Boerhavia diffusa*)

Nutritional values per 100 g - Magnesium- 142.9mg, sodium - 75.9mg, calcium – 69.4mg, potassium- 52.7mg, copper-3.9mg, lead-1.25mg, cadmium- 0.28mg, phosphorus- 99 mg, iron- 18.4 mg, zinc, manganese, ascorbic acid-0.20, thiamine- 0.24 and Tocopherol- 0.16^[9].

Chukku (Dried Rhizomes of *Zingiber officinale*)

Nutritional values per 100 g – Carbohydrate-11.2 g, protein -2.3 g, fat-1.5 g, calcium – 21.1mg, phosphorus – 61 mg, iron – 2.3 mg, vitamin A- 65 I.U, vitamin C – 7mg and nicotinic acid – 0.7mg^[10].

Milagu (Unripened Fruit of *Piper nigrum*)

Nutritional values per 100 g - Crude fat - 12.77% to 15.05%, fibre content – 4.55 % 5.50%, energy value – 361 kcal to 384.18 kcal, ash content – 6.47% to 7.63%, magnesium- 235.79mg to 249.79mg, calcium – 188.61mg, zinc – 1.45 to 1.72 mg, vitamin C- 30.75, vitamin B1 –0.74, vitamin B2 – 0.61 and vitamin B3 – 0.69^[11].

Thippili (Immature berries of *Piper longum*)

Nutritional values per 100 g - Calcium-344.4 mg, chromium- 0.49 mg, copper-4.69 mg, iron-29.13 mg, potassium- 1352.3mg, magnesium-135.39 mg, manganese-1.63 mg, sodium -13.96 mg, nickel-0.16 mg, zinc -1.46 mg, arsenic - 7.36 mg, vitamin A,B and C^[12].

Kadukkai (Dried fruits of *Terminalia chebula*)

Nutritional values per 100 g - Selenium -100mg, potassium – 63.5mg, manganese – 32 mg, iron – 30 mg, copper- 28.5 mg, energy value, protein, chloride, zinc and vitamin C^[13].

Nellikkai (Dried fruits of *Phyllanthus emblica*)

Nutritional values per 100 g - Calories – 48, fat-0.5 g, carbohydrate – 10 g, protein – 1 g, fat – 0.5 g, water – 86g, phenolic content- 3012.5mg, calcium – 25mg, phosphorus – 21 mg, iron – 1 mg, magnesium – 10 mg, phosphorus – 27mg, potassium – 198 mg, sodium -1 mg, zinc – 0.12mg, copper-0.1mg, manganese- 0.1mg, selenium – 0.6mcg, vitamin A- 290 I.U vitamin C- 478mg, vitamin E – 2450mg, niacin – 0.3mg, vitamin B - 6- 0.1mg, folate – 0.6mcg and pantothenic acid – 0.3 mg^[14].

Thandrikkai (Fruits of *Terminalia bellirica*)

Nutritional values per 100 g - Moisture 8.65±0.02, total ash 6.46±0.10, protein content 4.19±0.10, crude fibre 32.02±0.50, carbohydrate contents 40.12±0.30, food energy 187.35 cal/gm, potassium-190.84mg/kg, calcium – 81.42mg /kg,

sodium – 30.42mg/kg, magnesium-19.14mg/kg, aluminium-12.29mg/kg, iron – 2.71mg/kg and vitamin C^[15].

Karuppu Katti (Palm jaggery of *Borassus flabellifer*)

Nutritional values per 100 g - moisture -8.97%, ash -3.25%, Protein- 1.41%, organic matter- 11.1%, calcium, phosphorus, iron, sodium, potassium, vitamin – B12 and vitamin C^[16].

Vilakkennai (Oil of *Ricinus communis*)

Nutritional values per 100 g – Fat, calcium, phosphorus and vitamin E^[17].

CONCLUSION

There is a saying by Hippocrates, “ Let your food be your medicine and let your medicine be your food”. From the above review it reveals that the drug mudakkaruththaan ilakam provides the major nutritional supplements such as vitamins, minerals etc., It is concluded mudakkaruththaan ilakam can be used as a food supplement for the treatment of arthritis. The each ingredients of mudakkaruththaan ilakam can also be given separately as food supplement for treating and preventing arthritis.

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