



Review Article

A STUDY ON MEDICINAL PLANTS USED IN KARKIDAKA KANJI: A HEALTH TRADITION OF KERALA

Mohan Deepa<sup>1\*</sup>, Sajeevan Aiswaraya<sup>2</sup>

\*<sup>1</sup>Guest lecturer, <sup>2</sup>UG Student, Department of Botany, Bharata Mata College, Thrikkakara, Kerala, India.

ABSTRACT

*Karkidakam* (July- August) is the last month of Malayalam calendar and is one of the months that fall under monsoon season. The month is regarded as the most suitable time for rejuvenation therapies. *Karkidaka chikitsa* are well known tradition of Kerala, which focuses on detoxification of the body and prevention of monsoon related diseases. *Karkidaka kanji* is a medicated porridge consumed by the people as the part of *Karkidaka chikitsa*. The *Kanji* increases the digestive capacity and strengthens the body. It is believed that the *Kanji* will be providing immunity for the upcoming year. The present work reveals the importance of *Karkidaka kanji* and the plants used in the conventional method of its preparation. The information regarding the plants used was obtained from the Ayurvedic Doctors, Ayurvedic practitioners and local people of different regions of Kerala. The study enumerates the list of 87 plant species belonging to 42 families to be used in the preparation of *Karkidaka kanji*. The *Kanji* is generally prepared using *Njavara* rice, spices and various other herbs like *Sida cordifolia*, *Boerhavia diffusa*, *Mimosa pudica*, the extract of '*Dashapusham*' etc. The ingredients and preparation of *Karkidaka kanji* varied in different region according to the availability of plants. These ingredients are therapeutically active source of drug for various disease and ailments. Still there exist a lot of possibilities for investigating the potential pharmacological activities of these plants. Thus systematic documentation of such traditional system indicating the importance of plants opens up the opportunity for future research.

**KEYWORDS:** Ayurveda, *Karkidaka kanji*, *Karkidakam*, *Tridosha*, *Njavara* rice.

INTRODUCTION

"*Sama dosha, sama agni, sama dhatu malakriyah Prasanna atmaindriya manaha swastha iti abhidhidheyate*" ~ Sushrutastru 24/41

"Health is achieved when the *Tridoshas* (biological forces- *Vata*, *Pitta* and *Kapha*), and *Agni* (metabolic activity) are stable and the excretion process is normal. *Swastha* (good health) is obtained when the *Atmaa* (soul), *Indriyas* (senses) and *Manah* (mind) are in coordination with internal peace." *Ayurveda* (*Ayur* means life and *Veda* means knowledge) is known as the complete knowledge of life. This traditional system of healthcare focuses on the mutual relationship between the individual and the nature. This is achieved through physical therapies, herbal remedies, moderate physical exercises and a proper balanced diet in accordance with the season, geographical location, times of the day and even the health and emotion of the individual. *Ayurveda* prescribes regimens for all people in every seasons.

According to *Ayurveda* a year can be divided into two phases, the *Adanakala* and *Visargakala*. During *Adanakala* the body acquires strength and *Visargakala* is the period when the body loses its strength. The system also emphasis on the regular

observation and improvement of daily regimens (*Dinacharya*) and also seasonal regimens (*Rituacharya*) with appropriate diet plans for wellbeing of the individual.

In Kerala, *Varsharitu* (monsoon) comes under *Visargakala*. *Karkidakam* is the last month of Malayalam calendar and is one of the months that falls under *Varsharitu*. The *Karkidakam* is also known as *Dhurghada massam* which means risky month. From the past the month is regarded as a challenging period with poverty and scarcity of food.<sup>[1]</sup> During *Karkidakam* the monsoon rain will be at its peak. The earth gets colder due to rain, cold wind, clouds and moist weather. The decrease in temperature causes unbalance in *Tridoshas* and results in weakened digestive process which in turn affect the immunity.<sup>[2]</sup> Throughout this period the body is considered to be highly sensitive and food should be restricted to maintain good health. *Karkidaka chikitsa* or *Karkidaka* therapy is a traditional practice that is involved in rejuvenating the body. *Karkidaka kanji* (medicated porridge) is consumed as the part of *Karkidaka chikitsa* during this month. The *Kanji* helps to mitigate the imbalance of *Tridoshas* and also to improve the digestive activity of the body.<sup>[3]</sup>

*Karkidaka kanji* also known as *Marunnu kanji* or *Oushadha kanji*, is a special medicated porridge which is considered as one of the *Rituacharya* regimens during *Karkidakam*. The *Kanji* is prepared with easily digestible cereals, spices, herbs and fresh plant extracts.<sup>[4]</sup> It is considered ideal for people with disease like diabetes, hypercholesterolemia, arthritis, obesity, lumbar and cervical spondylosis etc. Hence it is consumed as *Oushadha* (medicine) as well as *Aahara* (food). The major ingredients include *Oryza sativa* (Njavara rice), *Cuminum cyminum*, *Triticum aestivum*, *Trigonella foenum-graecum*, *Tachyspermum ammi* etc. A few varieties of spices like *Zingiber Officinale*, *Piper nigrum*, *Elattaria cardamomum*, *Syzygium aromaticum* etc and many varieties of herbs like *Biophytum candolleanum*, *Cardiospermum halicacabum*, *Emilia sonchifolia*, *Boerhavia diffusa*, *Sida cordifolia*, *Mimosa pudica* etc are also used in the preparation. These ingredients aids easy digestion and strengthen the body. They serve as excellent source of carbohydrate, proteins, dietary fibers, vitamins and minerals. It is believed that a complete course of *Karkidaka kanji* will provide immunity for the whole upcoming year.<sup>[5]</sup>

The preparation of *Karkidaka kanji* varies according to locality and availability of plants, which are endemic to the region. This knowledge is unique and often remains within few communities. The importance of documenting such ethnic practices for further reference is of prime importance. Thus the present study aimed at documenting the plants used in the preparation of *Karkidaka kanji* and also to understand the prevailing method of its preparation.

## MATERIALS AND METHODS

The investigation was conducted among the Ayurvedic Doctors, Ayurvedic practitioners and local peoples of different regions of Kerala to collect the information regarding the various methods, ingredients and the plants used for the preparation of *Karkidaka kanji*. The study was carried out from July 2019 to March 2021. The prevalent method of preparation of *Karkidaka kanji* was recorded along with the ingredients used. Photographs of the plants and plant parts were also taken. Vernacular names of the medicinal plants mentioned by the local people was clarified with the help of Ayurvedic Doctors. The plants used were further authenticated using flora of the region.

## RESULTS AND DISCUSSION

*Karkidaka kanji* is an important *Aahara* which has become a habit of Keralites from centuries. It is a common *Ritucharya* practiced during the month of *Karkidakam*. The *Kanji* is known for eliminating thirst, tiredness, weakness, abdominal discomfort

and also hunger. It is served hot and is advised to prepare freshly on all days during the month of *Karkidakam*. The course of consumption can varies from 7 days to the entire month.

The *Kanji* is a special combination of grains, spices and fresh plants (mostly herbs). A total of 87 plants belonging to 42 families were identified to be used in the preparation of *Karkidaka Kanji* (Table 1). The plant families with most number of species used included Fabaceae and Apiaceae. Most of the plants were used completely for the preparation. Other commonly used parts included the leaves and the seeds. The common plant parts used for the preparation are represented in Figure 1. The main ingredients used are represented in the Figure 2 & 3.

Preparation of *Karkidaka kanji* is one of the conventional practices prevailing in Kerala. There was no strict procedure regarding the ingredients used for *Karkidaka kanji*, but there exists some regional differences in the preparation across Kerala. A general method of preparation was structured based on the information collected.

**Method of Preparation:** All the fresh ingredients are chopped and crushed for extracting the juice. The extract with equal amount of water is brought to boil. *Njavara* rice, green gram, fenugreek, spices and other dry ingredients are added to the boiling extract and cooked well. Once the rice is cooked coconut milk is added to the mixture. Finally shallots fried in fresh ghee is mixed with the *Kanji* and served hot. The *kanji* normally taste bitter, so salt or palm Jaggery can be used to reduce bitterness.

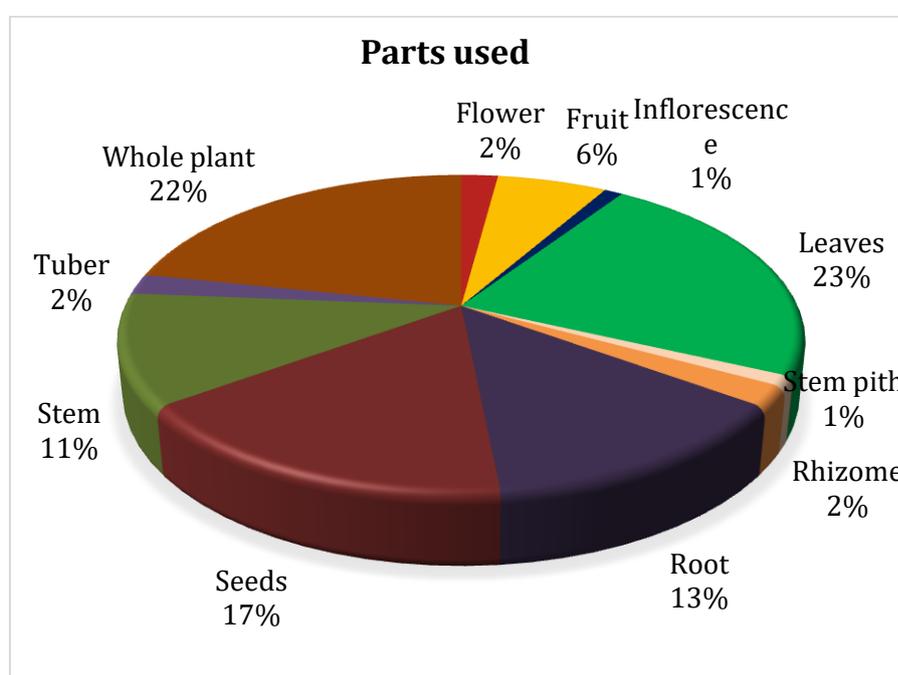
*Oryza sativa* (*Njavara* rice) is the prime important ingredient of *Karkidaka kanji* irrespective of the region. It is endemic to Kerala and is highly medicinal. It has both antidiabetic and antioxidant properties. *Trigonella foenum-graecum* (*Uluva*), *Tachyspermum ammi* (*Ayamodakam*), *Zingiber Officinale* (*Chukku*), *Cuminum cyminum* (*Jerrakam*), *Myristica fragrans* (*Jathikka*), *Coriandrum sativum* (*Malli*), *Lepidium sativum* (*Asali*) etc are the main dry ingredients used in the preparation. The common fresh ingredients include *Dashapushpam* (*Aerva lanata*, *Biophytum candolleanum*, *Cardiospermum halicacabum*, *Curculigo orchioides*, *Cynodon dactylon*, *Eclipta alba*, *Emilia sonchifolia*, *Evolvulus alsinoides*, *Ipomea serpiaria* and *Vernonia cinerea*), *Boerhavia diffusa*, *Sida cordifolia*, *Strobilanthes ciliatus*, *Ciccus quadrangularis* and *Mimosa pudica*. The phytochemical and medicinal value of all the ingredients used in the preparation of *Karkidaka kanji* are having wide range of health benefits and contribute directly for the improvement of general health of the individual.

**Table 1: The common plants used in Karkidaka Kanji with their vernacular name, family and used parts**

S.No	Botanical name	Vernacular name	Family	Useful part
1	<i>Achyranthes aspera</i>	Vankadaladi	Amaranthaceae	Whole plant
2	<i>Aegle marmelos</i>	Koovalam	Rutaceae	Root
3	<i>Aerva lanata</i>	Cheroola	Amranthaceae	Whole plant
4	<i>Allium cepa</i>	Cheriyaulli	Liliaceae	Tuber
5	<i>Amaranthus spinosus</i>	Mullan cheera	Amranthaceae	Whole plant
6	<i>Anethum graveolens</i>	Chathakuppa	Apiaceae	Seeds
7	<i>Artocarpus heterophyllus</i>	Plaavu	Moraceae	Leaves
8	<i>Baccopa monnieri</i>	Brahmi	Plantaginaceae	Whole plant
9	<i>Benincasa hispida</i>	Kumbalam	Cucurbitaceae	Tender leaves
10	<i>Biophytum candolleanum</i>	Mukkutty	Oxalidaceae	Whole plant
11	<i>Boerhavia diffusa</i>	Thazhuthama	Nyctaginaceae	Whole plant
12	<i>Borassus flabellifer</i>	Karimpana	Arecaceae	Inflorescence
13	<i>Brassica nigra</i>	Kadukku	Brassicaceae	Seeds
14	<i>Capsicum frutescens</i>	Kantharikoddi	Solanaceae	Stem & leaves
15	<i>Cardiospermum halicacabum</i>	Uzhinja	Sapindaceae	Stem & leaves
16	<i>Cassia tora</i>	Thakara	Fabaceae	Leaves
17	<i>Centella asiatica</i>	Kuddavan	Apiaceae	Whole plant
18	<i>Ciccus quadrangularis</i>	Changalamparanda	Vitaceae	Stem
19	<i>Clerodoendrum infortunatum</i>	Peringanam	Verbenaceae	Whole plant
20	<i>Clerodoendrum phlomidis</i>	Munja	Verbenaceae	Root
21	<i>Cocos nucifera</i>	Thenghu	Aracaceae	Fruit
22	<i>Coriandrum sativum</i>	Malli	Apiaceae	Seed & leaves
23	<i>Cucurbita moschata</i>	Mathan	Cucurbitaceae	Tender leaves
24	<i>Cuminum cyminum</i>	Nallajeerakam	Apiaceae	Fruit
25	<i>Curculigo orchioides</i>	Nilappana	Hypoxidaceae	Tuber
26	<i>Curcuma longa</i>	Manjal	Zingiberaceae	Rhizome
27	<i>Cyclea peltata</i>	Padathalli	Menispermaceae	Stem & leaves
28	<i>Cynodon dactylon</i>	Karuka	Poaceae	Leaves
29	<i>Desmodium gangeticum</i>	Orila	Fabaceae	Root
30	<i>Eclipta alba</i>	Kayyunyam	Asteraceae	Stem & leaves
31	<i>Elattaria cardamomum</i>	Elam	Zingiberaceae	Seeds
32	<i>Elephantopus scaber</i>	Anachuvadi	Asteraceae	Whole plant
33	<i>Embelia ribes</i>	Vizhalari	Myrsinaceae	Seeds
34	<i>Emilia sonchifolia</i>	Muyalcheviyan	Asteraceae	Stem & leaves
35	<i>Euphorbia thymifolia</i>	Nilappaala	Euphorbiaceae	Whole plant
36	<i>Evolvulus alsinoides</i>	Vishnukranthi	Convulvulaceae	Whole plant
37	<i>Glycosmis pentaphylla</i>	Kuttipannal	Rutaceae	Stem & leaves
38	<i>Gmelina arborea</i>	Kumizhu	Verbenaceae	Root
39	<i>Hemidesmus indicus</i>	Nannari	Asclepiadaceae	Leaves

40	<i>Holarrhena pubescens</i>	Kudakapaalari	Apocynaceae	Seeds
41	<i>Illicium verum</i>	Thakkolam	Schisandraceae	Fruit
42	<i>Inula racemosa</i>	Pushkaramulam	Asteraceae	Root
43	<i>Ipomea serpiaria</i>	Thiruthali	Convolvulaceae	Whole plant
44	<i>Ixora coccinea</i>	Chethi	Rubiaceae	Stem & leaves
45	<i>Justicia adhatoda</i>	Aadalodakam	Acanthaceae	Stem & leaves
46	<i>Lepidium sativum</i>	Asali	Brassicaceae	Seeds
47	<i>Lucas aspera</i>	Thumba	Lamiaceae	Whole plant
48	<i>Messua ferrea</i>	Nagapooov	Clusiaceae	Flower
49	<i>Metroxylon saghu</i>	Chowarri	Arecaceae	Stem pith
50	<i>Microstachys chamaelea</i>	Kodiaavanaku	Euphorbiaceae	Whole plant
51	<i>Mimosa pudica</i>	Thottavadi	Mimoseae	Whole plant
52	<i>Morinda umbellata</i>	Kudalchuruki	Rubiaceae	Whole plant
53	<i>Moringa oleifera</i>	Murringa	Moringaceae	Bark
54	<i>Mucrotyloma uniflorum</i>	Muthira	Fabaceae	Seeds
55	<i>Murraya koenigii</i>	Veppu	Rutaceae	Leaves
56	<i>Myristica fragrans</i>	Jathikka	Myristicaceae	Seeds
57	<i>Myxopyrum serratum</i>	Chathurramulla	Oleaceae	Leaves
58	<i>Naravelia zeylanica</i>	Vathakoddi	Ranunculaceae	Stem & leaves
59	<i>Naregamia alata</i>	Nilanarakam	Rutaceae	Whole plant
60	<i>Nigella sativa</i>	Karimjeerakam	Ranunculaceae	Fruit
61	<i>Ocimum sanctum</i>	Krishna thulasi	Lamiaceae	Whole plant
62	<i>Oroxylum indicum</i>	Palaka payyani	Bignoniaceae	Root
63	<i>Oryza sativa</i>	Njavara rice	Poaceae	Seeds
64	<i>Oxalis corniculata</i>	Pulliarella	Oxalidaceae	Whole plat
65	<i>Phyllanthus niruri</i>	Kizharnelli	Euphorbiaceae	Whole plant
66	<i>Piper longum</i>	Thippili	Piperaceae	Fruit
67	<i>Piper nigrum</i>	Kurumulaku	Piperaceae	Fruit
68	<i>Plectranthus amboinicus</i>	Panikurka	Lamiaceae	Leaves
69	<i>Pseudarthria viscida</i>	Moovila	Fabaceae	Root
70	<i>Psidium guajava</i>	Perra	Myrtaceae	Leaves
71	<i>Psoralea corylifolia</i>	Karkolarri	Fabaceae	Seeds
72	<i>Sida cordifolia</i>	Kurunthotti	Malvaceae	Root
73	<i>Solanum indicum</i>	Cheruvazhuthana	Solanaceae	Root
74	<i>Solanum surattense</i>	Kantakari chunda	Solanaceae	Root
75	<i>Stereospermum suaveolens</i>	Paathiri	Bignoniaceae	Root
76	<i>Strobilanthes ciliatus</i>	Karimkurinji	Acanthaceae	Root
77	<i>Syzygium aromaticum</i>	Karayampoovu	Myrtaceae	Flower bud
78	<i>Tachyspermum ammi</i>	Ayamodakam	Apiaceae	Seeds
79	<i>Tamarindus indica</i>	Pulli	Fabaceae	Leaves
80	<i>Tribulus terrestris</i>	Njjerinjhil	Zygophyllaceae	Root

81	<i>Trigonella foenum-graecum</i>	Uluva	Apiaceae	Seeds
82	<i>Triticum aestivum</i>	Nurku gothambu	Poaceae	Seeds
83	<i>Vernonia cinerea</i>	Puvamkurunnel	Asteraceae	Whole plant
84	<i>Vigna radiata</i>	Cherrupayar	Fabaceae	Seeds
85	<i>Vitex altissima</i>	Mylellu	Verbenaceae	Seeds
86	<i>Vitex negundo</i>	Karinechi	Verbenaceae	Stem & leaves
87	<i>Zingiber Officinale</i>	Chukku	Zingiberaceae	Rhizome



## CONCLUSION

Kerala is recognized for its ethnic customs and unique traditions. It is one among the states that receives the largest monsoon during the year. The monsoon rains are heaviest during the month of *Karkidakam*. As per the tradition of Kerala, people follow various therapies during *Karkidakam* to strengthen the body that helps them to withstand the monsoon related problems.

*Karkidaka kanji* is a medicated porridge made using easily digestible cereals, spices, herbs and fresh plant extracts. The admiration of *Karkidaka kanji* provide promising results due to the phytochemical properties and therapeutical values of cereals, spices and plants used for its preparation. In the present study, 87 plants belonging to 42 families are documented as plants used in the preparation of *Karkidaka kanji*. *Oryza sativa*, *Trigonella foenum-graecum*, *Tachyspermum ammi*, *Zingiber Officinale*, *Cuminum cyminum*, *Coriandrum sativum*, the juice of medicinal herbs called "*Dashapushpa*", *Boerhavia diffusa*, *Sida cordifolia*, *Mimosa pudica* etc are the main ingredients used in the preparation. The ingredients and preparation of *Karkidaka kanji* varies

in different region according to the availability of plants.

The rejuvenating effect of *Karkidaka kanji* is a well-established tradition of Kerala. Systematic documentation and subsequent screening on phytochemicals of these plants contribute for potential drug development in Ayurveda and other disciplines of medicine. It can also shed light towards understanding more about the prevailing biodiversity of the area. Thus by following such traditional system can contribute towards conservation of biodiversity and to lead a harmonious life with nature.

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**\*Address for correspondence**

**Deepa Mohan**

Guest lecturer

Department of Botany,

Bharata Mata College,

Seaport-Airport road,

Thrikkakara, Edapally, Kochi, Kerala.

Email:

[deepamohan1818@gmail.com](mailto:deepamohan1818@gmail.com)

Phone number: 0484-2425121

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Figure 1: The parts of plants used in the preparation of *Karkidaka kanji*



Fig. 2: a.*Oryza sativa*, b.*Trigonella foenum-graecum*, c.*Tachyspermum ammi*, d.*Cuminum cyminum*, e.*Coriandrum sativum*, f.*Lepidium sativum*, g.*Zingiber Officinale*, h.*Piper longum*, i.*Piper nigrum*, j.*Elattaria cardamomum*, k.*Vigna radiate*, l.*Myristica fragrans*,m.*Sida cordifolia*, n.*Boerhavia diffusa*, o.*Lucas aspera*.



Fig. 3: a.*Aerva lanata*, b.*Biophytum candolleianum*, c.*Cardiospermum halicacabum*, d.*Curculigo orchioides*, e.*Cynodon dactylon*, f.*Eclipta alba*, g.*Emilia sonchifolia*, h.*Evolvulus alsinoides*, i.*Ipomea serpiaria*, j.*Vernonia cinerea*, k.*Centella asiatica*, l.*Ciccus quadrangularis*, m.*Mimosa pudica*.