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 activates 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 atmaindiya 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 (Ayu 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 regimen 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 regimen (Dinacharya) and also seasonal regimen (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.[1] 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.[2] 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.[3]
Karkidaka kanji also known as Marunnu kanji or Oushadha kanji, is a special medicated porridge which is considered as one of the Ritucharya regimens during Karkidakam. The Kanji is prepared with easily digestible cereals, spices, herbs and fresh plant extracts.[4] 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 (Njavar rice), Cuminum cyminum, Trigonella foenum-graecum, Tachyspermum ammi etc. A few varieties of spices like Zingiber Officinale, Piper nigrum, Ellettaria 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.[5]

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. Njavar 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 (Njavar 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 orchidoides, Cynodnod dactylon, Eclipta alba, Emilia sonchifolia, Evolvulus alsinoides, Ipomea serpiaria and Vernonioa cinerea), Boerhavia diffusa, Sida cordifolia, Strobilanthes ciliatus, Cicus 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.
| S.No | Botanical name            | Vernacular name | Family          | Useful part     |
|------|--------------------------|-----------------|-----------------|-----------------|
| 1    | *Achyranthes aspera*     | Vankadaladi     | Amaranthaceae   | Whole plant     |
| 2    | *Aegle marmelos*         | Koovalam        | Rutaceae        | Root            |
| 3    | *Aerva lanata*           | Cheroola        | Amaranthaceae   | Whole plant     |
| 4    | *Allium cepa*            | Cheriyaulli     | Liliaceae       | Tuber           |
| 5    | *Amaranthus spinosus*     | Mullan cheera   | Amaranthaceae   | Whole plant     |
| 6    | *Anethum graveolens*     | Chathakuppa     | Apiaceae        | Seeds           |
| 7    | *Artocarpus heterophyllus* | Plaavu        | Moraceae        | Leaves          |
| 8    | *Bacopa monnieri*        | Brahmi          | Plantaginaceae  | Whole plant     |
| 9    | *Benincasa hispida*      | Kumbalam        | Cucurbitaceae   | Tender leaves   |
| 10   | *Biophytum candolleanum* | Mukkutty        | Oxalidaceae     | Whole plant     |
| 11   | *Boerhavia diffusa*      | Thazhuthama     | Nyctaginaceae   | Whole plant     |
| 12   | *Borassus flabellifer*    | Karimpana       | Areaceae        | Inflorescence   |
| 13   | *Brassica nigra*         | Kadukku         | Brassicaceae    | Seeds           |
| 14   | *Capsicum frutescens*     | Kantharikoddi  | Solanaceae      | Stem & leaves   |
| 15   | *Cardiospermum halicacabum* | Uzhinja   | Sapindaceae     | Stem & leaves   |
| 16   | *Cassia tora*            | Thakara         | Fabaceae        | Leaves          |
| 17   | *Centella asiatica*      | Kuddavan        | Apiaceae        | Whole plant     |
| 18   | *Cicus quadrangularis*    | Changalamparanda| Vitaceae        | Stem            |
| 19   | *Clerodendrum infortunatum* | Perinamam   | Verbenaceae     | Whole plant     |
| 20   | *Clerodendrum phlomidis* | Munja           | Verbenaceae     | Root            |
| 21   | *Cocos nucifera*         | Thenghu         | Areaceae        | Fruit           |
| 22   | *Coriandrum sativum*     | Malli           | Apiaceae        | Seed & leaves   |
| 23   | *Cucurbita moschata*     | Mathan          | Cucurbitaceae   | Tender leaves   |
| 24   | *Cuminum cyminum*        | Nallajeerakam   | Apiaceae        | Fruit           |
| 25   | *Curculigo orchoides*     | Nilappana       | Hypoxidaceae    | Tuber           |
| 26   | *Curcuma longa*          | Manjal          | Zingiberaceae   | Rhizome         |
| 27   | *Cylea peltata*          | Padathalli      | Menispermacae   | Stem & leaves   |
| 28   | *Cynodon dactylon*       | Karuka          | Poaceae         | Leaves          |
| 29   | *Desmodium gangeticum*   | Orila           | Fabaceae        | Root            |
| 30   | *Eclipta alba*           | Kayyunyam       | Asteraceae      | Stem & leaves   |
| 31   | *Elattaria cardamomum*   | Elam            | Zingiberaceae   | Seeds           |
| 32   | *Elephantopus scaber*     | Anachuvadi      | Asteraceae      | Whole plant     |
| 33   | *Embelia ribes*          | Vizhalari       | Myrsinaceae     | Seeds           |
| 34   | *Emilia sonchifolia*     | Muyalcheviyan   | Asteraceae      | Stem & leaves   |
| 35   | *Euphorbia thymifolia*   | Nilappaala      | Euphorbiaceae   | Whole plant     |
| 36   | *Evolvulus alsinoides*    | Vishnukranthi   | Convolvulaceae  | Whole plant     |
| 37   | *Glycosmis pentaphylla*  | Kuttipannal     | Rutaceae        | Stem & leaves   |
| 38   | *Gmelina arborea*        | Kumizhu         | Verbenaceae     | Root            |
| 39   | *Hemidesmus indicus*     | Nannari         | Asclepiadaceae  | Leaves          |
| No. | Species                  | Local Names       | Family           | Part Utilized          |
|-----|-------------------------|-------------------|------------------|------------------------|
| 40  | Holarrhena pubescens    | Kudakapaalari     | Apocynaceae      | Seeds                  |
| 41  | Illicium verum          | Thakkolam         | Schisandraceae   | Fruit                  |
| 42  | Inula racemosa          | Pushkaramulam     | Asteraceae       | Root                   |
| 43  | Ipomoea serpiaria       | Thiruthali        | Convolvulaceae   | Whole plant            |
| 44  | Justicia adhatoda       | Aadalodakam       | Acanthaceae      | Stem & leaves          |
| 45  | Lepidium sativum        | Asali             | Brassicaceae     | Seeds                  |
| 46  | Lucas aspera            | Thumba            | Lamiaceae        | Whole plant            |
| 47  | Messua ferrea           | Nagapoov          | Clusiaceae       | Flower                 |
| 48  | Metroxylon saghu        | Chourarri         | Areaceae         | Stem pith              |
| 49  | Microstachys chamaelea   | Kodaiavanaku      | Euphorbiaceae    | Whole plant            |
| 50  | Mirsula pudica          | Thottavadi        | Mimosea          | Whole plant            |
| 51  | Moringa umbellata       | Kudalchuruki      | Rubiaceae        | Whole plant            |
| 52  | Moringa oleifera        | Murringa          | Moringaceae      | Bark                   |
| 53  | Mucrotyloma uniflorum   | Muthira           | Fabaceae         | Seeds                  |
| 54  | Murraya koenigii        | Veppu             | Rutaceae         | Leaves                 |
| 55  | Myristica fragrans      | Jathikka          | Myristiceae      | Seeds                  |
| 56  | Myxopyrum serratum      | Chathurramulla    | Oleaceae         | Leaves                 |
| 57  | Naravelia zeylanica     | Vathakoddi        | Ranunculaceae    | Stem & leaves          |
| 58  | Naregamia alata         | Nilanarakam       | Rutaceae         | Whole plant            |
| 59  | Nigella sativa          | Karimeerakam      | Ranunculaceae    | Fruit                  |
| 60  | Ocimum sanctum          | Krishna thulasi   | Lamiaceae        | Whole plant            |
| 61  | Oroxylum indicum        | Palaka payyani    | Bignoniaceae     | Root                   |
| 62  | Oryza sativa            | Njavara rice      | Poaceae          | Seeds                  |
| 63  | Oxalis corniculata      | Pulliarella       | Oxalidaceae      | Whole plant            |
| 64  | Phyllanthus niruri      | Kizharnelli       | Euphorbiaceae    | Whole plant            |
| 65  | Piper longum            | Thippili          | Piperaceae       | Fruit                  |
| 66  | Piper nigrum            | Kurumulaku        | Piperaceae       | Fruit                  |
| 67  | Plectranthus amboinicus | Panikurka         | Lamiaceae        | Leaves                 |
| 68  | Pseudarthria viscida    | Moovila           | Fabaceae         | Root                   |
| 69  | Psidium guajava         | Perra             | Myrtaceae        | Leaves                 |
| 70  | Psoralia corylifolia    | Karkolarri        | Fabaceae         | Seeds                  |
| 71  | Sida cordifolia         | Kurunthotti       | Malvaceae        | Root                   |
| 72  | Solanum indicum         | Cheruvazhuthana   | Solanaceae       | Root                   |
| 73  | Solanum surattense      | Kantakari chunda  | Solanaceae       | Root                   |
| 74  | Stereospermum suaveolens| Paathiri          | Bignoniaceae     | Root                   |
| 75  | Strobilanthes ciliatus  | Karimkurinji      | Acanthaceae      | Root                   |
| 76  | Syzygium aromaticum     | Karayampoovu      | Myrtaceae        | Flower bud             |
| 77  | Tachyspermum ammi       | Ayamodakam        | Apiaceae         | Seeds                  |
| 78  | Tamandu indica          | Pulli             | Fabaceae         | Leaves                 |
| 79  | Tribulus terrestris     | Njerinjhil        | Zygophyllaceae   | Root                   |
Trigonella foenum-graecum | Uluva | Apiaceae | Seeds
Triticum aestivum | Nurku gothambu | Poaceae | Seeds
Vernonia cinerea | Puvamkurunnel | Asteraceae | Whole plant
Vigna radiata | Cherrupayar | Fabaceae | Seeds
Vitex altissima | Mylellu | Verbenaceae | Seeds
Vitex negundo | Karinechi | Verbenaceae | Stem & leaves
Zingiber Officinale | 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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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 candolleanum, 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. Cicus quadrangularis, m. Mimosa pudica.