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Folklore Medicinal Claims from Kani Tribes of Kanyakumari District, Tamil Nadu, South India

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ABSTRACT

The ethnic people have their own culture, customs, religion and medical lores gained from their ancestors. The Kani tribal community settled in the forests of Agasthiyamalai of Western Ghats in Kanyakumari and Tirunelveli districts of Tamil Nadu and some places of Kerala also have their own culture and medical lores. Residing inside the forest areas, they depend on natural resources for their food, wellness products and livelihood practices. Each tribal settlement has one or two experts called as Moopans who are well versed in the folk practice of medicine using herbs and animal products. Medico ethno botanical survey conducted by the authors of this paper recorded several claims, of which 29 are scrutinized as important. A brief account of the folklore information on native medical lore recorded from the Kani tribes explained in this paper.

Keywords: Agasthiyamalai, Medical lores, Kanitribals, Moopans, Kanyakumari

1. INTRODUCTION

Plants are the only source aided in primary healthcare system during prehistoric times. The information on medicinal properties of herbs was transmitted to their subsequent generation orally (Kaido *et al.*, 1997). Ayurveda and Siddha system of medicines are the traditional system of medicine which are encrypted alternative medicine to the present Indian generation. People from developing countries still follow traditional system of medicine for primary healthcare due to non toxic, eco-friendly and cost effectiveness (Shanley and Luz, 2003; Mukherjee and Wahile, 2006).

Researches on traditional medicinal plants have increased enormously in the 20th Century. Various organizations and researchers in different parts of the world paid important on preserving traditional knowledge and plants due to their importance in healthcare (Shil *et al.*, 2014; Ayyanar, 2011, 2015; Shah, 2015; Parthiban, 2016; Sivasankari, 2014; Rajakumar, 2009). Traditional system of medicine gained huge importance, hence documentation of medicinal plants from ethnic community in India are progress (Iyyanar and Ignacimuthu, 2005). Most recently, Krupa *et al.* (2017) investigated on the medicinal herbs used by ethnic people of Thiruvarur district (Tamil Nadu, India). Jaganathan *et al.* (2016) stated the significant herbal remedies documented from the Irular community of Pillar Valley in Coimbatore (Tamil Nadu, India). Alawa *et al.* (2016) reported the indigenous medicinal herbal knowledge of Bhil tribes of Dhar district of Madhya Pradesh (India).

Tamil Nadu (8°5'N) lies on the East Indian peninsula and is known with the rich ancient ethnic heritage of traditional Siddha system of medicine and biodiversity (Jaganathan *et al.*, 2016). The census report of Tamil Nadu during 2011 reveals that there are 36 Kani tribal communities, including 6 primitive tribes. 'Kani' refers to the people who dwell in forest and they belong to Kerala and it was reported that they were brought to Tamil Nadu during British period to work in tea and cardamom estates (KTMR Report).

The prime objective of this study is to record and document the herbal wealth so as to conserve the traditional knowledge of Kani tribal medicine deals with various health issues.

2. METHODS

2.1 Study area

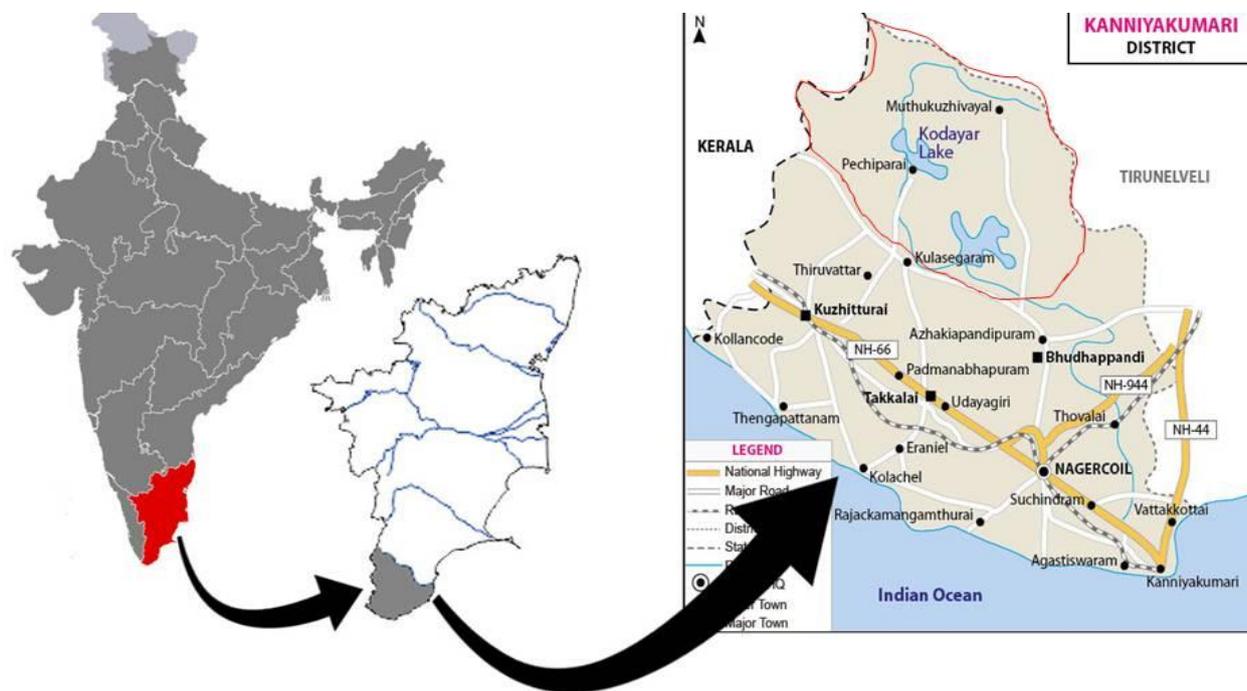


Figure 1. Location map of the study area

(Source: www.mapsofindia.com)

The medico ethno botanical survey conducted in the recent past in the Kani settlements, namely Mudavanpothai, Mothiramalai, Arukani and Petchiparai under Klamalai reserve forests and the Kani settlements of Kuravaikuzhi, Thottamalai, Kalapara, Koduthurai, Vilamalai, Mangamalai, Keeriparai, Vekkalimoodu, Maramalai, Vettamalai, Thachamalai of Kanyakumari District, Tamil Nadu, South India. Geographically the study area lies at 8.08° N and 77.5° E (Figure 1).

2. 2 Data collection

The data were collected by personal as well as group discussions with the experts called ‘moopans’ in their local language and the methods suggested by Jain (2001). Authors accompanied the informants in collection of plants by visual inspection of their prime parts, such as leaf, stems, roots and flowers. Aromatic plants were noted by smelling and tasting the plant parts. The species were collected and voucher specimens preserved as herbarium specimens at Survey of Medicinal Plants Unit-Siddha of Siddha Medicinal Plants Garden, (Central Council for Research in Siddha, Chennai), Mettur Dam, Tamil Nadu. The species were botanically identified using the standard flora, namely Flora of the Presidency of Madras (Gamble, 1935) and An Excursion Flora of Central Tamil Nadu (Matthew, 1995).

3. RESULTS AND DISCUSSION

The present study was aimed to investigate and document folklore medicinal acquaintance of Kani tribes dwelling in Kanyakumari district of Tamil Nadu, South India. The authors met the tribal people and had discussion with them regarding their health care and socio-economic conditions. The authors recorded some of their common health problems and the method of treatments they practice for curing the illness. It was understood that the tribal experts mostly use herbs and some adjuvant available in the forest areas to treat the patients. The illnesses are mostly diagnosed based on symptoms and verbal complaints. The treatments are given on free of cost. Occasionally, patients are taken to nearby primary health centres if the illness is severe and uncontrolled with their medicines.

A total of 41 medicinal plants belongs to 30 families employed in 29 health ailments and livelihood practices were reported in this study. For the purpose of first-hand information the diseases and the drugs with their botanical and local names, part used, method of preparation, dosage, period of treatment and administration, etc., are enumerated accordingly.

1) VENOMOUS SNAKE BITE:

Drugs:

- a. Botanical Name : *Aristolochia indica* L.
Local Name : Easwaramooli, Karudakodi
Part used : Whole plant
- b. Botanical Name : *Cocos nucifera* Linn
Local Name : Thengai
Part used : Endosperm extract (Coconut milk)

Administration: In every settlement one or two experts (Vishavaidya) are trained in this treatment. As soon as the affected person is brought to them, the Vishavaidya keeps a little amount of Coconut milk in the mouth and sucks the poisonous blood through the bitten spot and spitted out. This is repeated for 3-4 times so that the entire poison injected is thrown out. Further squeezed juice of the whole plant (one cup) of *Aristolochia indica* is given orally for 2-3 times at short intervals. Urine of female to male and male to female victims is mixed with the juice prior to administration.

2) COUGH IN CHILDREN:

Drug:

- a. Botanical Name : *Carica papaya* L.
Local Name : Pappali
Part used : Latex

Administration: Few drops of the latex are gently rubbed on the tongue of the child. This gives immediate relief.

3) DIARRHOEA:

Drug:

- a. Botanical Name : *Cassia fistula* L.
Local Name : Konneipattai
Part used : Stem bark

Administration: Expressed juice of the fresh bark is given orally.

Dose: Children 1-2 teaspoon, Adult upto 5 teaspoons once in a day.

4) FEVER DUE TO PERSISTENT COUGH AND PAIN IN THE CHEST:

Drugs:

- a. Botanical Name : *Moringa pterygosperma* Gaertn.
Local Name : Murangaiillai
Part used : Leaves
- b. Botanical Name : *Coriandrum sativum* L.
Local Name : Kothamalliillai
Part used : Leaves

Administration: A handful of each of these two leaves are boiled together in 200 mL of water and the decoction is given internally once in a day for 3 days. This relieves pain in the chest, controls cough and brings down the temperature to normal.

5) INDIGESTION AND STOMACH ACHE

Drugs:

- a. Botanical Name : *Zingiber officinale* Roscoe
Local Name : Inji
Part used : Rhizome
- b. Botanical Name : *Allium sativum* L.
Local Name : Poondu
Part used : Bulb
- c. Botanical Name : *Piper nigrum* L.
Local Name : Kurumilagu
Part used : Fruits

Administration: 2-3 g of each of these drugs are pounded and given orally with little warm water, thrice in a day for 3 days.

6) STOMACH ULCER – GENERAL

Drug:

- a. Botanical Name : *Centella asiatica* (L.) Urban
- b. Local Name : Kudangal, Vallarai
- c. Part : Whole plant

Administration: Fresh *Centella* herbs are pounded and the juice squeezed. Equal Quantity (25 mL) of this juice and coconut milk is given orally once in a day for 3 days.

7) GASTRIC ULCER

Drugs:

- a. Botanical Name : *Physalis minima* L.
Local Name : Sudakkuthakkali
Part used : Leaf juice
- b. Honey

Administration: One teaspoon of *Physalis* leaf juice mixed with one tea spoon of honey is given orally once in a day for 4-5 days.

8) EAR ACHE

Drugs:

- a. Botanical Name : *Capsicum frutescens* L.
Local Name : Milagaivartal
Part used : Dried fruit

- b. Botanical Name : *Azadirachta indica* A.Juss.
Local Name : Veppennai
Part used : Oil

Administration: A fully ripened dried fruit is taken and the tip is cut open. The seeds are emptied and 1-2 drops of neem oil is poured into the hull and warmed in fire. The oil thus obtained is cooled and dropped into the ear. This subside the pain immediately.

9) TOOTH ACHE

Drug 1:

- a. Botanical Name : *Jatropa curcas* L.
Local Name : Kuruvatti
Part used : Bark

- b. Lime powder

Administration: Decoction prepared with the bark and little lime powder is used for gargling the mouth. This is said to relieve toothache. A paste of common salt with tamarind is used as tooth paste to prevent the problems further.

Drug 2:

- a. Botanical Name : *Wrightia tinctoria* R.Br.
Local Name : Karipalai
Part used : Tender leaf

Administration: One or two tender leaves are chewed and kept at the infected tooth. The acrid juice of the leaves counter irritates and relieves ache.

10) DENTAL SENSITIVENESS

Drugs

- a. Botanical Name : *Ficus bengalensis* L.
Local Name : Aalamvizhuthu
Part used : Tender aerial root

Administration: Tender aerial root of the banyan tree is used as tooth brush for a couple of week. The astringent nature of the root restores sensitiveness.

11) SINUSITIS

Drugs:

- a. Botanical Name : *Curcuma domestica* Valetton
Local Name : Manjalkizhangu
Part used : Dried rhizome

Administration: 1-2 fingers of turmeric is ground to a paste and smeared on the head prior to bath. This is repeated for 4-5 days. This is grown in their homestead garden.

12) BOWEL COMPLAINTS IN CHILDREN

Drugs:

- a. Botanical Name : *Momordica charantia* L.
Local Name : Paagal
Part used : Leaves

- b. Mother's Milk

Administration: ½teaspoon of *Momordica* leaf juice is mixed with equal quantity of mother's milk and given orally once in the morning for 3 days. This rectifies distension of the abdomen.

13) CONSTIPATION IN PREGNANT WOMEN

Drug:

- a. Botanical Name : *Cardiospermum halicacabum* L.
Local Name : Ulingai
Part used : Leaves

Administration: 5-10 g fresh leaves are ground to fine paste and given orally with warm water at bed time. This relieves constipation and makes the bowel comfortable. Claimed to be a safe remedy as *C. halicacabum* is a mild laxative.

14) FOR EASY DELIVERY

Drug:

- a. Botanical Name : *Oxalis corniculata* L.
Local Name : Karpakeerai
Part used : Leaves

Administration: About 20 mL of fresh juice is given orally as and when the labour pain gets started. This accelerates smooth delivery. The paste of the same is also smeared on the abdomen.

15) SCORPION STING

Drug:

- a. Botanical Name : *Begonia malabarica* (Lam.) Trivengadam
Local Name : Vishanarayani
Part used : Whole plant

Administration: Fine paste of the plant is kept on the sting spot. Old rice water or coconut milk is given to drink following the application. This alleviates the pain and the burning sensation spontaneously. This drug is claimed to be an emergency recipe.

16) INCISED WOUNDS

Drug:

- a. Botanical Name : *Bambusa arundinacea* (Retz.) Roxb.
Local Name : Moonkilkurunthu
Part used : Young shoots

Administration: Fine paste of the young shoot is bandaged over the cut injury. It sticks to it tightly. If any pain is noticed further few drops of water are sprayed on the bandage for moistening the bandage. This relieves the pain. Only one time is claimed enough for the complete healing.

17) TO DESTROY LICE AND MAGGOTS

Drug:

- a. Botanical Name : *Pterospermum rubiginosum* Heyne ex Wt. & Arn.
Local Name : Ellutripattai
Part used : Stem bark

Administration: Hot water infusion of the stem bark is used as hair wash for few days. This is also repeated after a month to eradicate the remnants if any noticed.

18) VETTU (Convalescence) Marunthu

Drugs:

- a. Botanical Name : *Cosciniium fenestratum* (Gaertner) Colebr.
Local Name : Manjalkodiverkattai
Part used : Root and Stem
- b. Botanical Name : *Smilax zeylanica* L.
Local Name : Karuvilanjikudam
Part used : Root
- c. Botanical Name : *Sida rhombifolia* L.
Local Name : Kurunthotti
Part used : Root

Administration: Decoction of these three drugs in equal quantity is given to drink internally for continuous fever followed with vettu (Convulsion), weakness and exhaustion. It restores sound health. It is also claimed to be a potent nervine tonic.

19) COMMON FEVER

Drugs:

- a. Botanical Name : *Rauwolfia serpentina* (L.) Benth ex Kurz.
Local Name : Amalpori
Part used : Root
- b. Botanical Name : *Aristolochia indica* L.
Local Name : Karudakodi
Part used : Root

Administration: Decoction of the two drugs of about each 5 g is given orally once in a day for 3 days or till the fever is controlled.

20) STOMACH ACHE

Drug:

- a. Botanical Name : *Thottea siliquosa* (Lam.) Ding Hou.
Local Name : Kurtilaivayana
Part used : Root

Administration: Fine paste of the fresh root in a dose of Indian gooseberry size is given orally twice in a day for 3-5 days.

21) JAUNDICE (Manjalnovu)

Drug 1:

- a. Botanical Name : *Phyllanthus amarus* Schumach. Ex Thonn.
Local Name : Keezhanelli
Part used : Aerial portion

Administration: Half handful of the fresh plant (aerial portion) ground finely and mixed with butter milk or boiled rice water is given orally once in a day for 5-7 days. Oil substances and salt are restricted.

Drug 2:

- a. Botanical Name : *Drynaria quersifolia* (L.) Roemer & Schultes
Local Name : Appusarukkan, Chemmarikizhangu
Part used : Rhizome

Administration: A piece of rhizome is crushed with cold water and given orally. Dose: One cup (100 mL) daily for 5-7 days.

22) DYSENTERY

Drug:

- a. Botanical Name : *Bombax ceiba* L.

Local Name : Mulilavu
Part used : Leaves

Administration: Hot water infusion of few leaves is given to drink few times in a day for arresting the problem.

23) COLIC

Drugs:

- a. Botanical Name : *Curcuma domestica* Valetton
Local Name : Manjal
Part used : Rhizome
- b. Botanical Name : *Zingiber officinale* Roscoe.
Local Name : Inji
Part : Rhizome
- c. Botanical Name : *Anacardium occidentale* L.
Local Name : Mundri
Part used : Stem bark

Administration: Juice of all the three items are mixed and treated with a red hot iron rod for a minute. It is given at a dose of 10-15 mL to drink, twice a day.

24) COUGH DUE TO PHLEGM

Drugs:

- a. Botanical Name : *Curcuma domestica* Valetton
Local Name : Manjal
Part used : Rhizome
- b. Botanical Name : *Zingiber officinale* Roscoe
Local Name : Inji
Part used : Rhizome
- c. Botanical Name : *Azadirachta indica* A.Juss.
Local Name : Veppennai
Part used : Oil

Administration: Item one and two are ground to paste and smeared on a white cleaned cloth. The cloth is then dried for some time in sun and rolled. It is then soaked in neem oil and burnt. The smoke is inhaled. This brings out phlegm and subside cough.

25) COUGH DUE TO FLUID ACCUMULATION

Drugs:

- a. Botanical Name : *Leucas aspera* (Willd.) Link.
Local Name : Thumbai

- Part used : Whole plant
- b. Botanical Name : *Physalis minima* L.
Local Name : Sudakkuthakkali
Part used : Whole plant

Administration: The extracted juice of both the drug is given orally in a dose of 15-20 mL, twice a day for a week. In case of infants one or two drops of the expressed juice is smeared on the tongue.

26) INDIGESTION (MANTHAM)

Drug 1:

- a. Botanical Name : *Euphoria nivulia* Buch. - Ham.
Local Name : Manthakkalli
Part used : Leaves

Administration: 1-2 fresh leaves are warmed in fire and the juice is squeezed. 3-5 drops of this juice is given orally twice a day for 3 days.

Drug 2:

- a. Botanical Name : *Ananas comosus* (L.) Merr.
Local Name : Paruthikurunthu
Part used : Leaves

Administration: 1-2 young leaves are warmed in fire and the juice is squeezed. 5-10 drops of this juice is given internally twice in a day for 3 days.

Drug 3:

- a. Botanical Name : *Calamus rotang* L.
Local Name : Priappankizhangu
Part used : Rhizome

Administration: Decoction of the rhizome is given internally once in a day for 5 days.

27) MALE CONTRACEPTIVE

Drugs:

- a. Botanical Name : *Abrus precatorius* L.
Local Name : Kuntrimani
Part used : Seeds
- b. Botanical Name : *Piper betel* L.
Local Name : Vetrilai
Part used : Leaf juice

Administration: 2-3 seeds of *Abrus precatorius* are rubbed with the juice of betel leaves and the paste is given orally, once in a day for 3 days. This makes

the person sterile for a year. If desired, the treatment is repeated for the subsequent years.

28) FISH POISON

Drug:

- a. Botanical Name : *Croton tiglium* L.
Local Name : Nanjan guru
Part used : Seed

Administration: Crushed seeds are sprayed in the stagnant water. The fishes eat the seeds, get stupefied and float. The tribes collect them easily and cook. The tribes grow this plant nearby their houses for this purpose.

29) COLLECTION OF HONEY FROM DOMESTIC BEES

Drug:

- a. Botanical Name : *Zingiber zerumbet* Roscoe ex Smith
Local Name : Sayenthi
Part used : Rhizome

Administration: Bee keeping (Apiculture) is one of the income generations of the Kani tribes. To get rid of the bees from the hives, a piece of the rhizome of *Zingiber zerumbet* is chewed and blown into it. The bees flew away due to the intolerance of the odour. The combs are then taken out and the honey squeezed. The bees once again return to the hives as and when the odour gets diminished. Leaves of *Z. zerumbet* are tied on a long bamboo stick. It is burnt and the smoke is adjusted to set on the comb. The bees flew away from the comb; the collectors cut the comb and squeeze the honey. The smoke from the burning leaves is said to be disagreed by the bees hence they desert the comb. This practice is followed for wild honey collection in the forest areas.

The Kani tribes use several plant recipes for their day-to-day health problems. Many of these plants or combinations are mostly innovative and do not find place in the available text. Some of them are very effective and need to be validated. For example treatment regarding Jaundice (Manjalnovu) with Keezhanelli of course is a common practice among the people, but the use of rhizome of *Drynaria quersifolia*, a fern is quite new to the medical treatment.

The drug is commonly available and cheaper. Using seeds of *Abrus precatorious* (Kuntrimani) with betel leaf juice as male contraceptive is also a new claim which is worth mentioning. Similarly easing delivery with juice of *Oxalis corniculata* (Karpakeerai) prescribed at the time of labour pain. If this folklore claim is subjected for scientific validation it will be a boost to the mankind.

In this medico ethno botanical study 41 plant species along including three adjuvants are used by the Kani tribes, are brought out for further validation. **Figure 2** represents some selected species reported in the study.



Figure 2. A. *Abrus precatorius* L. (seeds), B. *Calamus rotang* L. (Rhizome), C. *Cassia fistula* L., D. *Croton tiglium* L. (seeds), E. *Cardiospermum halicacabum* L. (leaves), F. *Capsicum frutescens* L, G. *Piper betel* L., H. *Drynaria quersifolia*(L.) Roemer &Schultes, I. *Begonia malabarica* (Lam.) Trivengadam, J. *Oxalis corniculata* L., K. *Phyllanthus amarus* Schumach. Ex Thonn., L. *Curcuma domestica* Valetton (rhizome), M. *Wrightia tinctoria* R.Br., N. *Euphoria nivulia* Buch.- Ham., O. *Carica papaya* L.

Among the 41 species, 32 are dicot, eight species belong to monocots and one fern species. List of plant part wise usage in the folklore claims are enumerated in **Figure 3**. Root and rhizome is used to cure 13 ailments. Leaves are employed in 10 preparations, stem and stem bark are reported in treating 5 diseases. Seeds and fruits are used in 2 ailments each. Whole plant is exploited in curing 7 ailments. Aerial root *Ficus*, endosperm milk of *Cocos*, latex of *Carica* and bulbs of *Allium cepa* are enumerated in treating diseases. Sixteen single drug administrations were observed in treating cough in children, diarrhoea, dental sensitiveness, sinusitis, stomach ulcer, constipation, delivery, scorpion sting, incised wounds, destroy lice, stomach ache, jaundice, dysentery and fish poison. More than one drug is used to cure snake bite, ear ache, cough followed by chest pain, tooth ache, bowel complaints, indigestion, gastric ulcer, convalescence, fever, cough due to phlegm and as male contraceptive medicine.

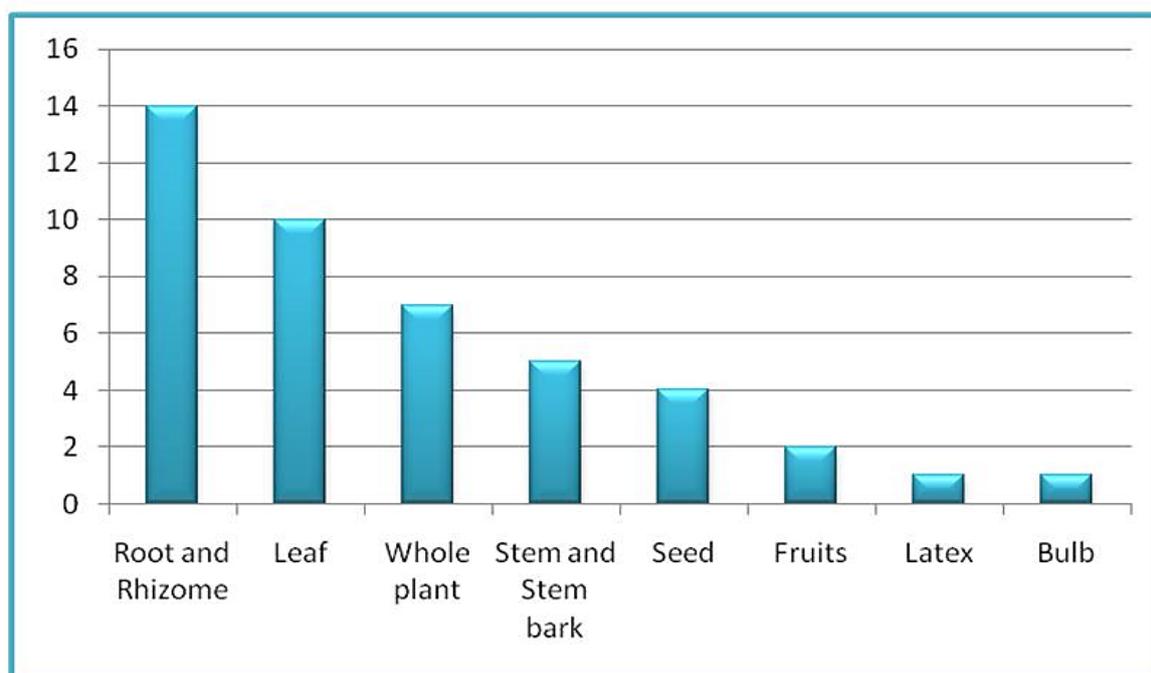


Figure 3. Graphical explanation of medicinal plants parts used by Kani tribes described in the present study

4. CONCLUSION

Globally, the health care practices by the tribes or forest dwellers have gained wide popularity. Kani tribal people living in harmony with nature have acquired knowledge of natural resources; especially the medicinal potency of herbals is not exempted in this regard. Many of the claims need to be scientifically studied and validated by the researchers and medical practitioners.

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