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Review Article

STUDY ON MEDICINAL VALUE OF HERBS AND VEGETABLES COMMONLY USED IN MANIPURI CUISINE THROUGH AYURVEDIC PERSPECTIVE

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ABSTRACT

North east India is rich in medicinal plant diversity. Manipur, a state of north-eastern India, which falls in the Indo-burma border is known for its ecologically distinctive and rich biodiversity, having many endemic flora and fauna and rich cultural diversity. Herbs and spices form a very important part of Manipuri cuisine, specially for the Meitei community. The Meitei community typically raise vegetables in their kitchen garden therefore their cuisine is very much seasonal. In this article 14 herbs and vegetables are included for study. Some of the herbs are- *Mayang-ton* (lemon basil), *Mukthrubi* (Chamelon plant), *Phakpai* (*Polygonum posumber*) etc. Further many large varieties of vegetables that are used in daily meals are found in and around the region and not seen elsewhere. Some of them are *Yongchak* (tree bean), *Sougri* (*Hibiscus Cannabinus*), *Yeli* (water caltrop) etc. These herbs and vegetables are used in day to day life but people are mostly unaware of the various health benefit of them. Now it's high time to make the general masses aware about the benefits of their own traditional cuisine. Redefining them through Ayurvedic perspective will enable in knowing the medicinal action on *Dosha and* will help in promoting the knowledge to local people and physician to use these local herbs and vegetables appropriately and wisely on different disease treatment and prevention.

INTRODUCTION

India is extremely rich in medicinal plant diversity in different geographical and environmental conditions. Manipur, which lies in the north-eastern part of India, falls in the "indo-burma" centre of biodiversity hotspot of global significance. The Manipuri cuisine is famous for its used of various aromatic herbs and roots that are peculiar to the region. The Meitei community typically raise vegetables in a kitchen garden at home or obtained from the local market, therefore the cuisine are very seasonal, each season having its own special vegetables and preparation.

These herbs and vegetables posses various medicinal value which are not known to the people as well as other parts of the country. Under this study some of the commonly used herbs and vegetables are being studied to shed light on their health benefits through Ayurvedic perspective.

MATERIALS AND METHODS

Materials were collected from different books of medicinal plants from the library of Government Ayurvedic College, Guwahati, Assam, previous dissertations and research papers. For this article internet was also studied.

DISCUSSION

The following is a discussion on 14 commonly used herbs and vegetables of Manipuri cuisine. In this study, I have tried to throw light on the medicinal value of these 14 plants.

As *Charak Acharya* has stated in *Sutrasthana* (26/10-12) and (27/330) chapter that according to *Ayurveda* all matter is constituted of 5 *Mahabhutas* and there is nothing in the world which does not possess a therapeutic value and properties of those drugs which are not mentioned, may be determined by taking into account the attributes made by that locality.

Thus in this article, out of the 14 plants, Some of these plants are mentioned in *Ayurvedic* classics while some are not. Those which are not mentioned directly, here I have tried to draw a similar parlance, based on the plant species of the same family which are mentioned in Ayurveda and a probable mechanism of action is being established.

Polygonum Posumber

Manipuri name: *Phakpai*

Family*:* Polygonaceae

Habitat: Aromatic Under shrub

Parts used : Leaf / shoot

Mode of used: Eaten raw in salad or used to garnished traditional chutney called *" Eromba*"

Rasa: Astringent (*Kashaya)*

Virya: Shita

Vipak: Katu

Dosa-karma: Pitta shamak

Constituents: Oleonic and betulinic acid.

Medicinal use: Crushed leafy shoot is used for local application on forehead against fever. Its leaf is taken raw in hypertension and is very effective in lowering high blood pressure. Shoot extract is used in washing ulcers. Seeds are tonic, purgative and emetic and given in colic[1].

Benincasa Hispida

Manipuri name : *Torbot*

Common names: Petha in Hindi, ash gourd in English, *Kusmanda in Sanskrit*

Family : Cucurbitaceae

Habitat : Robust climber

Parts used: Seed and fruit

Mode of use: Fruit is boiled simply with sugar or is cooked with other vegetables to make a typical dish called "*Ooti".*

Rasa: Sweet *(Madhur)*

Virya: Shita

Vipak: Madhur

Prabhav: Medhya (intellect promoting*)*

Dosa-karma: Vatta pitta shamak

Constituents: Seeds yield a type of fatty oil and also contain pure protein and arginine, hispidine, lysine, tryptophane, phenylanin and cystine.

Medicinal use: Boil fruit is used in stomach ulcers and jaundice[2]. Fresh fruit paste is good for local application on eyes against blackening of skin and eye itching. Seed oil is anthelmintic. Fruit is good for diabetes and diuretic in nature. It is a good antidote for many kinds of vegetable poison, mercury and alcoholic poisoning. Its ripened fruit is useful in *Manasik roga*[3]. Fresh juice of the fruit is administered in haemoptysis and other haemorrhages from internal organs[4].

Zanthoxylum Acanthopodium

Manipuri name: *Mukthrubi*

Common names: Nepali dhaniya in Hindi, prickly winged leaf in English*, Tejobati* in sanskrit.

Famiy: Rutaceae

Habitat: Spiny bushy shrub

Parts used: flower, fruit and leaf

Mode of use: Eaten fresh in salad, cooked with certain small snail and as fried Pakoda.

Rasa : Pungent *(Katu),* bitter *(Tikta)*

Virya : Ushna

Vipak : Katu

Dosa-karma: Kapha vatta shamak and *Pitta vardhak*

Constituents: Dried flower yields an essential oil called wartara oil, it is rich in linalool largely used in perfumery.[5]

Medicinal use: Fruits and seeds used as tonic in fever, dyspepsia and toothache and scabies. Seeds and leaves used in indigestion, cough and bronchitis. Plant extract used in the preparation of insecticides. Oil extracted from the seeds is useful for healthy growth of hairs, as an antiseptic, deodorant and disinfectant. Bark decoction/infusion is used in cholera. In diseases of oral cavity and throat, the juice of the plant is used for gargling or its paste of powder is applied.[6]

Euryale Ferox

Manipuri name : *Thangjing*

Common names : *Makhana* in Hindi and Sanskrit, fox nut in English

Family : Nymphaeaceae

Habitat : Aquatic rooted spiny herb

Parts used : Fruit, leaf and seed

Mode of use: The immature fruit called *Lolang* is eaten after boiling and the mature fruit called *Aroba* is eaten fresh as *Singju* or mixed with *Eromba* (typical chutney).

Rasa : Sweet *(Madhur)*

Virya : Shita

Vipak : Madhur

Dosa-karma: Vatta pitta shamak

Constituents: Fruit contains food values per 100 mg of edible portion: protein-12. 8g, fat-0. 1gm, minerals-0. 5gm, carbohydrate-76. 9gm, calcium-20mg, phosphorous-90mg and iron-1. 4mg. The antioxidents mainly a-, b-, g- and s-tocopherol have been extracted with organic solvents from the seed

Medicinal use: Raw fruit is used for diabetes, leaf petiole paste is applied on burns and boils. Seeds are spermatorrhoea[7], tonic, astringent and deobstruent. Seed flour is used as a substitute for arrowroot and easily digestible. It is useful in *Raktapitta*, burns, leucorrhoea and post partum weakness. It is also an aphrodisiac, expectorant and emetic in nature[8].

Ocimum Canum

Manipuri name : *Mayangton*

Common names : Vantulsi in hindi, hoary basil in English

Famiy : Lamiaceae

Habitat : Aromatic bushy under shrub

Parts used : Leaf, seed and shoot

Mode of use: Used to garnished different types of traditional chutney, cooked with pumpkin and eaten fresh in salad.

Rasa : Pungent (*Katu) and* bitter (*Tikta)*

Virya :Ushna

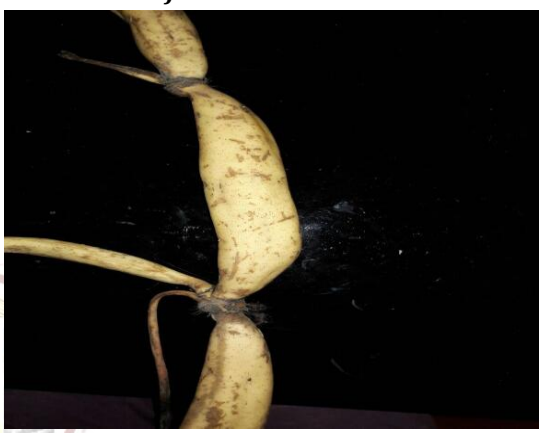
Vipak : Katu

Dosa-karma: Kapha shamak

Constituents: The plant contains citral, linalool, greraniol and citronellol

Medicinal use: Leafy shoot paste is good for fever problem (local external application on forehead)[9]. Leafy shoot decoction is used as mouth-wash in pyorrhoea. Leaf juice with honey is given in fever, cough and colic. The seeds are used in malaria and emaciation.

Nelumbo Nucifera



Manipuri name: *Thambou*

Common names: Kamal in Hindi, lotus in English

Family: Nymphaeaceae

Habitat: Aquatic rooted herb

Parts used: whole plant, specially root

Mode of use: Tender leaves are eaten raw with dry fish and chilli, roots are eaten raw as salad, seeds are eaten raw as snacks.

Rasa: Astringent (*Kashaya),* bitter *(Tikta),* sweet *(Madhur)*

Virya: Shita

Vipak: Madhur

Dosa-karma: Kapha pitta shamak

Constituents: Leaves contain alkaloids like nuciferine, roemerine, non-nuciferine and querecetin. The plumules yields proteins, sugar and vitamins. The receptacles contain quercetin.

Medicinal use: Leaf petiole taken raw in stomach problem and for better urination. Roots, flowers, filaments and seeds are used in diarrhoea, cholera, leprosy, bleeding piles, dysentery, skin infection and snake-bikes. Leaves and seed cores extract are effective for insomnia, haemorrhage and haematenesis. Decoction of flower is used for blood purification. It is useful in vomiting, thirst, diarrhoea. It is nutritious to fetus (fiaments should be used). It is useful in *Pittaja prameha*[10].

Allium Odorum

Manipri name : *Maroi-nakuppi*

Common names: Chinese chives in English

Family : Liliaceaea

Habitat : Slender delicate aromatic

Parts used : Leaf

Mode of use : Eaten raw or fried and also used for tempering dishes

*Rasa :*Pungent *(Katu),* sweet *(Madhur)*

Virya : Ishat ushna

Vipak : Madhur

Dosa –karma :Vatta shamak

Constituents: Isolation of (-)3 (s)1, 2, 3, 4, -tetrahydro b-carboline-3-carboxylic acid and tyrosine from leaves. Leaves and bulbs contain sulphur compounds, saponins and bitter substances. Seeds contain alk saponins, tannins, phenols, volatile oil, flavonoids and amino acids. [11]

Medicinal use: Plant soup is good against urinary disorder especially in scanty urination. Fresh leaf juice is good for nourishing scalp and hair growth.

Allium Hookerii

Manipuri name : *Maroi-napakpi*

Common names : Winter leek / hooker chives in English

Family : Liliaceae

Habitat : Aromatic delicate plant

Parts used : whole plant

Mode of use : Eaten raw garnishing "*Eromba*" or used for tempering.

Rasa : Pungent *(Katu),* bitter *(Tikta)*

Virya : Ushna

Vipak : Katu

Dosa – karma : Kapha shamak

Medicinal use: Leaf juice is useful for stomach ulcers. Consumption of fresh leaves is useful for reducing high blood pressure. Boiled leaf is useful against calculi formation inside the body.

Studies shows that *Allium hookeri* has HO-1 activity on the oxidase stress conditions showing pancreato-protective effects against the development of inflammation in STZ-induced diabetic rats. [12]

Centella Asiatica

Manipuri name : *Peruk*

Common names: *Brahmi* in Hind, *Mandukparni* in Sanskrit, Indian pennywort in English

Family : Apiaceae

Habitat : Profuse stanggling herb

Parts used : whole plant

Mode of use: Eaten raw with fish and chilli or boiled to make "*Peruk kangsu*", a typical chutney only made by *centella asiatica.*

Rasa: Bitter *(Tikta),* astringent *(Kashaya)*

Virya: Shita

Vipak: Madhur

Prabhav: Medhya (intellect promoting)

Dosa-karma : Pitta kapha samak

Constituents: A glycoside, asiaticoside, shown to be active in the treatment of leprosy, has been reported to be found.

Medicinal use: Plant decoction is good for leprosy, skin, disease, chronic inflammation of the skin, chronic ulcers etc. Plant juice is applied externally on abnormal swellings and inflammations. Juice is also good to check fever. Dried leaf powder is good for tuberculosis. Boiled plant soup is used as hair lotion[13]. *Brahmi* is one of the recognised drugs used for *Rasayana.* For mental weakness , for improving memory- power , the dried leaves in small doses with milk is beneficial. Juice

combined with *Cadamba* bark, ghee and black cumin is applied as *Lepa* in skin eruptions supposed to arise[14].

Trapa Ntans

Manipuri name : *Yeli*

Common names: Singara in Hindi, water chestnut in English, *Shringatak* in Sanskrit

Family: Trapaceae

Habitat: Aquatic rooted herb

Parts used: whole plant

Mode of used: Fruit are boiled, leaf and shoot are boiled and use to prepare *Eromba* with dry fish and chilli.

Rasa: Sweet *(Madhur),* Astringent (*Kashaya).*

Virya: Madhur

Vipak: Shita

Dosa-karma: Pitta shamak

Constituents: Plant contains thiamine, riboflavin, nicotinic acid, vitamin C, A, oxalates and b-amylase. The starch isolated from the flour consists about 15% amylase and amylopectin

Medicinal use: The plant is used to enhance blood circulation and useful in leucorrhoea. Fresh tender kernels are sweet, delicious, nutritious and a good source of minerals and carbohydrates. The fruit are astringent, cooling, constipating, diuretric, antipyretic, appetizer and tonic. It is useful in thirst, *Grahani, Raktapitta*, urinary disorders, general weakness, pregnancy and as *Lepa* in burns[15,16].

Parkia Javanica

Manipuri name : *Yongchak*

Common names : Tree bean in English

Family : Mimosaceae

Habitat : Robust tree

Parts used : Bark, fruit and inflorescence

Mode of used :Inflorescence and tender pod is eaten raw or cooked. It is regarded as one of the most delicacy food.

Rasa : Astringent *(Kashaya),* Bitter (*Tikta)*

Virya : Shita

Vipak : Katu

Dosa-karma: Pitta shamak

Constituents: The associating pungent smell of *P. javanica* is due to the presence of thiazolidine-4-caboxylic acid, a cyclic sulphur containing amino acid.

Medicinal use: Bark decoction is given for dysentery and diarrhoea. Roasted seeds eaten for stomach disorder. Tender pod is used for intestinal disorder. Fruit / seed decoction is used for bleeding piles. Pods and seeds are useful in stomach disorders. The leaves are applied as lotion to cure sores and skin infection[17].

A recent study shows that the extract ethyle acetate fraction of *Parkia javanica* has antimicrobial and antibiofilm potential against microorganism Pseudomonas aeruginosa.[18]

Hibiscus Cannabinus

Manipuri name : *Sougri*

Common names : Ambari in Hindi, decan hemp in English

Family : Malvaceae

Habitat : Tall erect herb

Parts used : Leaf, stem and seed

Mode of used: It is boiled for potherb vegetables

Rasa : Sour *(Amla)*

Virya : Ushna

Vipak : Amla

Dosa-karma : Vatta shamak

Constituents: Plant yield a fatty oil for manufacturing of soap, linoleum, paints and varnishes.

Medicinal use: Leaves are used as potherb. Decoction of the leaves are used for hair lotion (chenghi) and skin eruptions. Leaves are used in constipation[19], carminative and cough. Lotion prepared from the leaf and stem is used in venereal sores and arthritis. Seeds

are used in stomachic and aphrodisiac. leaves are purgative[20].

Lysinachia Ovovata

Manipuri name: *Kengoi*

Family: Primulaceae

Habitat: Gregarious spreading delicate herb

Parts used: Leaf / shoot

Mode of use: Leaves with tender shoot is boil for consumption.

Rasa: Sour *(Amla)*

Virya: Ushna

Vipak: Amla

Dosa-karma: Vatta kapha shamak

Medicinal use: Cooked plant is given against diabetes, piles and intestinal disorder.

Neptunia Oleracea

Manipuri name : *Esing ekaithabi*

Common names: *Lajalu* in Hindi, water mimosa in English.

Family: Mimosaceae

Habitat: Floating aquatic herb

Parts used: whole plant

Mode of use: Eaten boiled or used for garnishing *"Eromba".*

Rasa: Astringent *(Kashaya)*

Virya: Shita

Vipa : Katu

Dosa-karma: Pitta shamak

Constituents: Plant contains moisture (88%), vitamin A (5. 4mg/100g), crude fat (1. 2%), crude fibre (16%), total ash (5. 4%). Stem reported containing steroids, steroidal sapogenins, flavonoids, triterpenoidal sapogenins and carbohydrates were detected in different extracts of the stem. The alcoholic extract was found to posses significant anti inflammatory activity.

Medicinal use: Juice used in earache and roots in syphilis. Raw leaf is used for dysentery and intestinal infection.[21]

This plant is used as remedies like anticancer, antioxidant, dysentery etc and as bio fertilizer in the rice field. [22]

CONCLUSION

With the globalisation of fast food industry, many people are changing their food habits which is not at all suitable for their health and lifestyle. It is the need of the hour to educate or make the general masses aware about the benefits of their own traditional cuisine. These herbs and vegetables are not only useful as food but have certain medicinal value which helps in prevention as well as treating diseases. So people in other parts of the country should also try to include these plants in their food habit. As Charak acharya has stated "All *Dravya* are *Pancha bhautic* and those plants which are not mentioned directly should be known from the local people using the plant" so, those plants which are not mentioned in *Ayurveda*, needs further research to bring them into the mainstream and use for the up gradation of Ayurveda.

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