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A review of some important Ayurvedic medicinal vegetable plants

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ABSTRACT

Medicinal plants have been used from the ancient civilization of the society. Traditional Indian medicine (Ayurvedic) is becoming increasingly popular, with much chronic condition responding to it well. From thousands of years these plants have been used to treat and prevent many types of disease along with epidemic. Every portion of the plant has medicinal properties. A detailed knowledge of the action of food spices and medicinal plant is need in order to understand their potential influence fully. The Ayurvedic medicine are based on natural herbal materials, majority of regular cultivated as well as wild vegetables have medicinal property and can be used to treat common ailments. In the present paper attempts were made on ethno-medicinal properties of some cultivated and wild vegetables from, published research articles and books. On the basis of available ethno-botanical information and Ayurvedic used of vegetables through published literature studies. It observed that 24 vegetables from 12 families. These may be cultivated or wild are very useful. Various parts of the vegetables that is root, stem, bark, leaves, flowers, fruits or seeds may be used in Ayurvedic treatment for curing to the diseases. The vegetables plant part being used for both internal and external. Different disease like, diabetes, rheumatism, dysentery, dyspepsia, gastritis, constipation, urinary disorders, are mostly treated by these cultivated as well as wild vegetables. These are easily available in natural habitat cheap and excellent source of nutrients but it is needed to understand the Ayurvedic prospective of these vegetables.

Key words: Vegetable, Medicinal, Ayurvedic potential, Diseases, Treatment.

INTRODUCTION

Traditional knowledge of wild food is largely transmitted through participation of individuals helps for future generation to obtain inexpensive food resources. Knowledge related to wild edible plants is rapidly eroding because they are largely ignored by

the people.^[1] As compared to medicinal plant there is limited documentation of traditional knowledge regarding wild edible plants. The vegetables are natural habitat and easily available from surrounding. These are excellent source of nutrients like proteins, carbohydrates iron, vitamins, minerals and some other secondary metabolites. Regular use of these vegetables may indirectly act as alternative sources of medicinal drugs along with nutritional benefits.

Near about 3900 plant species are used as food by tribal, out of which 145 species comprise of root and tubers, 521 of leaf vegetable.^[2] India secured second position in the world, next to China, in vegetable production. Although 175 major and minor vegetables crops are grown in India including 82 leafy vegetables there is challenge to achieve the target of 160 million tons of vegetables to fulfill the recommended requirement by 2020.^[3] These wild and cultivated edible vegetable not only serve as alternative to staple

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food during periods of food deficit but they play as a valuable supplement for nutritionally balanced diet. Plants have an important role in maintaining health and improving quality of human life.^[4]

Many medications have side effects and withdrawal symptoms that, if the medications are later discontinued, can become problematic. In such circumstances, Ayurveda has much to offer. Approximately 90% of Ayurvedic properties are plant based. Ayurvedic plants have a stronger action on the body than either food or spice. Such action enables the plant to reverse patho-physiological processes and stabilize the *Dosha*. There is misconception that Ayurvedic preparations being natural are always safe.^[5] This is untrue *Charaka Samhita* note that Ayurvedic medicines have adverse effects when prepared and / or used inappropriately, so it is important that when taking Ayurvedic treatment it should take under the expert in Ayurveda. There is very little known about the Ayurvedic medicinal prospective of the vegetable, therefore in the present studies effort has been made to understand the Ayurvedic medicinal importance of vegetables.

MATERIALS & METHODS

Research articles from various ethno-botanical journals, Ayurvedic magazines and books were referred to gather the information regarding the traditionally used vegetables and their medicinal uses. The data obtained is critically reviewed and arranged systematically with reference to their botanical identity and Phytochemicals in the table 1. Whereas part of plants and method of use as Ayurvedic perspective described in table 2.

DISCUSSION

Table 1: Botanical identity of Vegetables and their part contains.

S N	Botanical name	Family	Common name	Habit	Plant part contains (Phytochemicals)
1	<i>Abelmoscus esculentus</i>	Malvaceae	Okra, Ladies	Herb	Dietary fiber, Vitamin C &

	Linn. ^[6]		Fingers		K, magnesium
2	<i>Allium cepa</i> Linn. ^[7]	Liliaceae	Onion	Herb	Thiosulfinates, flavonoids
3	<i>Allium sativum</i> Linn. ^[7]	Liliaceae	Garlic	Herb	Alliin, allicin
4	<i>Anethum graveolens</i> (Linn.) Benth ^[8]	Umbelliferae/ Apiaceae	Dill	Herb	Ether, Myristicin Scoumarins, Steroids.
5	<i>Amaranthus spinosus</i> Linn. ^[9]	Amaranthaceae	Prickly	Herb	Oxalic acid, Flavonoids, Glycosides
6	<i>Amorphophallus</i> <i>complanatus</i> ^[10]	Araceae	Suran Elephant foot	Herb	Vitamins A, B & C
7	<i>Benincasa hispida</i> [11][32] (Thunb.) Cogh.	Cucurbitaceae	Ash Pumpkin	Herb	Alunsenol, volatile oil, Flavonoids glycosides
8	<i>Beta vulgaris</i> ^[12]	Chenopodiaceae	Beet root	Herb	Carotenoids, Glycine betaine, Saponins and betacyanines
9	<i>Brassica oleracea</i> var. <i>botrytis</i> ^[13]	Cruciferae	cauliflower	Herb	Vitamin C, K, & B ₆ , Folate, pathothenic acid
10	<i>Brassica oleracea</i> var. <i>capitata</i> ^[13]	Cruciferae	cabbage	Herb	Vitamin B ₆ , folate Indole-3-Carbinol Sulforaphane and glucosinolates
11	<i>Brassica sativus</i>	Brassicaceae	Sengri	Herb	Sulforaphane &

	<i>var. caudatus</i> ^[14]				Sulforaphane
12	<i>Canavalia gladiata</i> (Jacq) ^[15]	Papilionaceae	Sword Bean	Herb	Gallotannin, Tannin
13	<i>Capsicum frutescens</i> Linn. ^[16]	Solanaceae	Chili	Herb	Capsaicin, Capsaicinoids
14	<i>Cassia tora</i> ^[17,18]	Caesalpiniaceae	Takala	Shrubs	Anthraquinone
15	<i>Cicer arietinum</i> Linn. ^[19]	Papilionaceae	Green Gram	Herb	Proteins, amino acids, Phytosterols, Glycosides
16	<i>Citrullus colocynthis</i> Sch. ^{[11],[20]}	Cucurbitaceae	Bitter Apple	Herb	Sterol Flavonoids
17	<i>Clerodendrum serratum</i> ^[21]	Verbenaceae	Blue flower Glory tree	Shrubs	Saponins (terpenoids, steroids)
18	<i>Coccinia grandis</i> (Linn.) Voigt. ^[22]	Cucurbitaceae	Ivy gourd tindora	Herb	Sitosterol, cephalandrol Heptacosane
19	<i>Colocasia Spp.</i> ^{[23][24]}	Araceae	Elephant ear	Herb	Raphides of calcium oxalate monohydrate
20	<i>Coriandrum sativum</i> , Linn. ^[8]	Umbelliferae	Coriandrum	Herb	Vitamin A, C & K Selenium, Iron, Magnesium & essential oil.
21	<i>Cucumis melo. Var. uttlimus</i>	Cucurbitaceae	Snake cucumber	Herb	Vitamin E, C & Carotenes, Triterpenoids

	Duthies & Fuller ^[11]				ds, Flavonoids
22	<i>Cucumis sativus</i> . ^[11]	Cucurbitaceae	Cucumber	Herb	Potassium, Cucurbitaxanthin A, B, C & D.
23	<i>Cucurbita maxima</i> Duch. ^[11]	Cucurbitaceae	Pumpkin	Herb	Cucurbitaxanthin A & B, Saponin & fixed oil.
24	<i>Daucus carota</i> Linn. ^[25]	Umbelliferae	Carrot	Herb	Vitamin A, Carotene





3	<i>Allium sativum</i> Linn. [29]	Pungent , Tikta & Madhura	Hot (<i>Ushna</i>)	Blub & Seeds	It is Digestive, Used in Liver and Lunges disease It is used in Joint pain.
4	<i>Anethum graveolens</i> (Linn.) Benth [27]	Pungent	Hot (<i>Ushna</i>)	Leaves & Seeds	Used in typhoid's, it is Digestive, and used in stomach problem, Oil from seeds also used.
5	<i>Amaranthus spinosus</i> Linn. [27]	Tikta	Cool (<i>Sheet</i>)	Total plant	It is used in fever, used as Antibiotic <i>Mutravardhak</i>
6	<i>Amorphophalus companulatus</i> [29]	Tikta & astringent	Dry in potency	Root, Corm & Seeds	Used in <i>Asthma</i> , Inflammatory disease, Seeds are used in joint pain
7	<i>Benincasa hispida</i> [27] (Thunb.) Cogh.	Tikta	Cool (<i>Sheet</i>)	Fruit ,Seeds & Seed oil	Reduce <i>Vata</i> , <i>Pitta</i> , used in blood disease, and Heart disease.
8	<i>Beta vulgaris</i> [30]	Sweet (Madhura)	Cool (<i>Sheet</i>)	Root	Reduce <i>Vata</i> & <i>Pitta</i>
9	<i>Brassica oleracea var. botrytis</i> [29]	Pungent	Cool (<i>Sheet</i>)	Leaf and stem	Used in <i>Rakt</i> <i>pitta</i> , it is <i>Pitta</i> and <i>Khaph Nashak</i>
10	<i>Brassica oleracea var. capitata</i> [29]	Sweet (Madhura)	Cool (<i>Sheet</i>)	Upper leaves	It is help to reduce <i>Vata</i> , <i>Pitta</i> , and use in itching, skin diseases,

Table 2: Plant used in Ayurvedic Medicine

S N	Botanical name	Rasa	Virya	Part used	Ayurvedic Perspective
1	<i>Abelmoscus esculentus</i> Linn. [27]	Sweet Muccus	Hot (<i>Ushna</i>)	Leaf, Fruit & seeds	It is analgesic, Used in fever, <i>Mutravardhak</i> .
2	<i>Allium cepa</i> Linn. [29]	Pungent & Madhura	Hot (<i>Ushna</i>)	Blub & Seeds	Used in fever, and in heart disease.

					worm infection and use in diarrhea, fever & cough.
11	<i>Brassica sativus var. caudatus</i> [27]	astringent		Root, leaves and seeds	Leaves are diuretic, seeds are carminative, Used in indigestion, It is antispasmodic, antifungal & antibacterial.
12	<i>Canavalia gladiata</i> (Jacq) [30]		Hot (Ushna)	Leaves, Pod & seeds	It is Antimicrobial, used in Balances of <i>Vata dosha</i>
13	<i>Capsicum frutescens</i> Linn.[29]	Tikta & pungent	Hot (Ushna)	Fruits and seeds	It is used in digestion, used in muscles pain, increased <i>Pitta</i>
14	<i>Cassia tora</i> [27]	Pungent	Hot (Ushna)	Leaf & Seeds	It help to reduce <i>Kapha, Vata</i> , it is antihelminthic, used in skin diseases such as leprosy, psoriasis and ringworm
15	<i>Cicer arietinum</i> Linn. [30]	astringent	Cool (Sheet h)	Leaves and seeds	It used in Indigestion, vomiting, Diarrhea, and also used in <i>Raktvikar</i>
16	<i>Citrullus colocynthis</i>	Bitter	Hot (Ushna)	Fruit &	It is used in Ascites,

	Sch.		a)	Leaves	Jaundice, <i>Asthma</i> , It is also use in constipation s
17	<i>Clerodendrum serratum</i>	Bitter in test	Hot (Ushna)	Root	Helps to reduce <i>Kapha & Vata</i> , it is used in cough, <i>Asthma & T B</i> .
18	<i>Coccinia grandis</i> (Linn.) Voigt.	Sweet (Madhur) Mucus	Cool (Sheet h)	Root, leaf & fruits	It is used in Jaundice, fever. It is use in <i>Vata</i> , <i>Asthma & T.B.</i> ,
19	<i>Colocasia Spp.</i>	Tikta	Hot (Ushna)	Leaf Corm	Used as anti-inflammatory, antidiabetic. It is good stimulant.
20	<i>Coriandrum sativum</i> , Linn.	Astringent	Hot (Ushna)	Leaf, Fruits & its Oil	Used in digestive system, used in vomiting & diarrhea, it is also anti-inflammatory
21	<i>Cucumis melo. Var. uttissimus</i> Duthies & Fuller	Sweet (Madhur)	Cool (Sheet h)	Root, fruit & seeds	It is analgesic. Seeds help to reduce <i>Pitta</i> , seed pest used in burning
22	<i>Cucumis sativus</i> .	Sweet (Madhur) Pungent	Cool (Sheet h)	Root, fruit & seeds	It help to reduce <i>Pitta</i> , used in <i>Mootrakricch</i> , and <i>Rakthapitta</i>
23	<i>Cucurbita maxiona</i>	Sweet (Madhur)	Cool (Sheet	Fruit, Seeds &	It is antihelminthic,

	Duch.		h)	Seeds oil	Diurectic, also used in piles, it helps to reduce <i>Vata</i> & <i>Pitta</i>
24	<i>Daucus carota</i> Linn	Sweet (Madhur)	Cool (Sheet h)	Root, leaves & Seeds	Use in Heart disease, Eye diseases

Food is itself medicine and it is possible to make a person disease free with a proper diet. In order to maintain a good relationship between the diet, health and disease a well-balanced nutritious diet is important. Vegetable's plant has maintaining health and improving the health quality of human. They provide vitamins and minerals.^[32]

Different traditional and regular vegetables used for medicinal purpose from different group of families are tabulated in table No. 1 and Photo plate No. 1 and 2. From the table No. 1 total 24 vegetables are identified which having medicinally important biochemicals. Analysis of the ethno botanical information revealed that one or the other parts of vegetables belong to about 24 species of 12 families are used as Ayurvedic prospective in India. Mostly vegetable are herbs and they have contains vitamin, steroids, glycosides, flavonoids etc.

In the table No. 2 were describe the vegetables as Ayurvedic importance. Ayurvedically these vegetables showed different *Rasa* and *Virya*, some vegetables showed pungent, strong or *Tikta* or sweet *Rasa*, with *Sheet* (cool) or *Ushan* (hot) potency. Different Part of these vegetable plants are used as medicinal valuable mostly root, leaf, stem and seed are used for curing different disease and disorders.

Overlapping between food and medicine is well known in traditional societies and represent an often neglected field in ethno pharmaceutical research. No clear dividing line between food and medicinal plant usually exists especially in indigenous and local tradition. Food can be used as medicine and vice versa.

CONCLUSION

Edible and medicinally valuable vegetables can provide healthy alternatives to highly processed food and pharmaceuticals. The present review indicates that regular use of wild and edible vegetables is helpful in prevention and management of wide range of diseases conditions. So, there is a need for making aware to the society for understands to this indigenous knowledge. Scientific studies of all these vegetables are highly desirable to establish their efficiency for safe medicinal use.

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