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JEEVANIYA MAHAKASHAYA: VITAL NUTRITION FOR CHILDREN'S HEALTH

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ABSTRACT

Jeevaniya Mahakashaya are a group of 10 drugs that works on the immune system directly and are very much conducive for health. In our *Ayurvedic* classics the knowledge about *Mahakashaya* were dealt in *Charaka Samhita Sutra Sthana* 4th *adhyaya* which are about 50 in number, each having 10 drugs.[1] Among them, the first and the foremost is *Jeevaniya Mahakashaya*, which are a group of drugs beneficial for life. Most of the drugs present in this group are essential for functioning of the whole body in terms of providing energy and sustaining life activities. This can be compared to various nutrients and immunity boosters. Drugs mentioned under this became endangered nowadays. These drugs are of great efficacy and potency, *Jeevaniya Karma* of some of the drugs is evident by researches showing them as a very good *Rasayana* with rejuvenating and health-promoting properties. Further these drugs are useful in promoting body fat, healing fractures and also reported to restore health immediately and work as antioxidants in the body. Therefore, a comprehensive review of drugs under heading was presented in this article which highlight important aspects that it can act as dietary supplement and important component of nutrition in children. All these drugs have high nutritive value and these *Dravyas* are predominantly of *Madhura Rasa* and *Madhura Vipaka*, as *Madhura Rasa* is already *Satmya* to children they can be used in healthy as well as diseased condition of the children.

KEYWORDS: *Jeevaniya, Mahakashaya, Madhura*, Immunity.

INTRODUCTION

Acharya Charaka has described ten medicinal drugs that can be used as "*Jeevaniya"*, which promotes well-being and improves the quality of life of an individual. These enlivening herbs are vitalizers, rejuvenators, replenish body tissues and strengthen the body organs. These drugs are essential in functioning of the body in terms of providing energy, sustaining life activities and rebuilding that can be compared to nutrients and immunity booster. *Jeevan*= Life= *Sharir* + *Indriya* +*Satva* +*Atma*. They nourish all the 7 *Dhatus* and *Ojas*. These medicines are useful in any age group and highly beneficial for maintenance of health.

Children being the vital part contributes to the need of understanding that the healthy development of children is crucial to the future well-being of any society. As they are still developing, children are especially vulnerable to poor living conditions such as inadequate health care, nutrition, poverty etc. Malnutrition poses a significant threat to the future of children and, consequently, to the societies in which they live. All the drugs mentioned

- Have life promoting action along with an incredible body energizer effect that improve body's endurance and immunity.
- Contain nature's richest source of vitamins, iron, calcium, magnesium, folic acid, potassium and aluminium in small traces along with antioxidants.
- Support and maintains healthy systemic adequacy for physical performance and fight fatigue.
- Promotes healthy circulation and oxygen rich blood flow to all system in the body.
- Promotes cellular health and support defence against pathogens.

All of these plants have their natural habitats in Himalaya particularly the north-west Himalaya in J & K, Uttarakhand & Himachal Pradesh between elevations of 1500 and 4000m. Their natural habitats are specific in ecological environment.[2]

The present communication deal with the taxonomical and medicinal properties of these medicinal plants each with common action. Although some work has been done on identification of medical plant mentioned but still there need to identify the true representatives of this group.

MATERIAL AND METHODS

All the data related to the subject was reviewed from the classic Ayurvedic texts as well as articles published in various journals through PubMed. SciFi and Scopus.

1. Jeevaka[3,4,5]

Latin name: *Malaxis acuminata* D. Don Syn. *Crepidium acuminatum* (D. Don) Szlach. Syn. *Microstylis wallichii* Lindl.

Family: *Orchidaceae.*

Habit: A terrestrial, pseudo bulbous, 5-25 cm in height, perennial, tender herb. Stem tending to be pseudo bulbous at base.

Botanical description: Its stem is underground, spreading, fibrous roots downwards, ribbed. Leaves usually 2-4, sessile or petioled, 7.5-12.5 cm long, ovate-lanceolate, often discoloured, light green, acute with prominent veins, leaves in whorls on the nodes directly raised upwards, angular, attenuate, stem covered by basal leaves forming a tubular structure.

Pseudobulbs: Pseudobulbs 3-9 cm long and 1-3 cm in diameter, conical. fleshy, smooth. shining, in pairs, new one look like garlic cloves, greenish-white, covered with membranous sheath, slightly mucilaginous, remain alive over longer period.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Sterols, Steroids, Anthraquinones, Coumarin, Piperitone, β-sitosterol, Limonene, Eugenol, Essential oils.	Immunomodulatory, Anticancer, Antidiabetic, Anti-inflammatory, Antimicrobial, Antioxidant.	*Raktapitta, Daha, Kshaya, Raktavikara, Karshya, Shvasa, Kasa, Shosha*.

2. Rishabhaka[6]

Latin name: *Malaxis muscifera* Ridley.

Family: *Orchideaceae.*

Botanical description: A terrestrial herb upto 40 cm tall. Pseudobulb small, ovoid. Stem flexuous. Leaves 3-5, unequal, approximate blade of larger leaves 2-10 x 1-4 cm long and wide while blade of smaller 1.5-6 x 0.5-3 cm long and wide, elliptic to oblong or oblong-lanceolate, obtuse or acute or sub-acuminate. Sheathing petiole 2-6 cm long. Inflorescence 2.5-25 cm long. Flowers yellowish-green.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Malaxin	Rejuvenative, Haemostatic, Anti-diarrhoeal, Anti-oxidant, Anti-inflammatory, Anti-ageing, Anti-dysenteric	Emaciation, Burning sensation, Tuberculosis, Bleeding disorders

3. Meda[7]

Latin name: *Polygonatum verticillatum* L.

Family: *Liliaceae.*

Botanical description: It is a perennial rhizomatous herb, its rhizomes are usually tuber like, shortly branched and 0.7-1.5 cm thick. Stem usually erect, 2 to 4 feet/30- 60 cm in height, angled and grooved, glabrous sometimes mottled. Leaves in whorls of 4 to 8, occasionally alternate near the base of stem, sometimes opposite near the apex, sessile, elliptic to narrowly lanceolate/lincar, 4 to 8 x 4 to ½ inch, or in case of lanceolate, 3½ x inch, tips usually acute but some time acuminate, margins entire, sometimes obtuse or slightly in rolled, lower surface is glaucous. Inflorescence racemes whorled, 2 to 3 flowered. The flowering and fruiting take place in the month of June to October.

Fruit is in the form of berries which are red, becoming purple on maturation, 6-8 mm or 14 inch in diameter.

Useful part: Rhizome.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Lysine, Serine, Aspartic acid, Threonine, Diosgenin, β-sitosterol.	Antimalarial, Antioxidant, Anti-inflammatory, Antispasmodic, Insecticidal, Antidiarrheal, Aphrodisiac.	*Balroga, Bhagandara, Gulma, Kamala, Kasa, Naktatandhya, Netrasrava, Rajyakshma, Raktapitta, Shosha, Shvasa, Timira, Visarpa.*[8]

4. Mahameda[7]

Latin name: *Polygonatum cirrhifolium* (Wall) Rolye.

Family: *Liliaceae.*

Botanical description: Rhizome moniliform or tuberous, terete, 1-2 cm thick. Stem erect or scandent, 30-90 cm long, glabrous. Leaves in whorls of 3-6, rarely a few alternate in proximal part of stem, sessile, narrowly linear to linear-lanceolate, very rarely oblong-lanceolate, margin entire, 4-12 cm x 2-15 mm long and wide, tip usually cirrose at anthesis.

Inflorescences usually 2-flowered. Flowers pendulous. Peduncle 0.3-1 cm long. Bracts 1-2 mm, Berries red or purple-red, 8-9 mm in diameter, 4-9-seeded. Flowering May-July and fruiting September-October.

Useful part: Rhizome, Root.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Steroidal Saponins, Digitalis Glucoside	Hypoglycaemic, Hypotensive, Antifungal, Antioxidant, Aphrodisiac.	*Balroga, Jvara, Raktavikara, Kshaya, Daha, Raktapitta.*[8]

5. Kakoli[7]

Latin name: *Roscoea procera* Smith.

Family: *Zingiberaceae.*

Botanical description: 35-50 cm tall, perennial, herb. Rhizome slightly blackish in colour. Root fibers thick, fleshy, fascicled, slightly light brown in colour. Stem purple coloured, leafy, elongate, erect and robust. Leaves 5-6, lanceolate, 15 cm long, 1.2-2.5 cm wide, at flowering time sheath broad, imbricated leaf-sheath green or purple-red with spots. Flowers few, orchid like in a sessile spike. Bracts oblong, hidden in the sheaths of the upper leaves. Seeds ovoid, minute, arillate. Flowering June-July. Fruiting August-September.

Active constituents: Kaempferol, Vanillic acid, Protocatechuic acid, Syringic acid, Ferulic acid.

Useful part: Tuberous root.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Kaempferol, Protocatechuic acid, Syringic acid, Ferulic acid, Vanillic acid.	Immunomodulatory, Antidiabetic, Anti-oxidant.	*Raktapitta, Shosha, Jvara, Shvasa, Kasa, Kshaya, Daha.*[9]

6. Ksheerakakoli[7]

Latin name: *Lilium polyphyllum* D. Don.

Family: *Liliaceae.*

Botanical description: A narrow bulbous herb with fleshy scales long narrow, subequal. Stem 60-120 cm erect, slender. Leaves alternate, lower whorled, lanceolate to linear-

lanceolate, 5-13 cm long and 0.5-1.5 cm wide, acute, margin hairy. Raceme 4-10 lowered. Bracts whorled. Flowers pendulous, fragrant. Pedicel 4-10 cm long, slightly drooping. Tepals dull yellow or greenish outside, white within with purple streaks. 3-4 cm long, oblanceolate. Stamens exserted. Anthers 1.3 cm long. Style very declinate. Fruit capsule. Flowering/fruiting August.

Useful part: Rhizome.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Alkaloids (peimine, peiminine, pemisine), Propeimin, Sterol.	Diuretic, Antipyretic, Antioxidant.	Seminal weakness.[10]

7. *Mudgaparni*[11]

Latin name: *Phaseolus trilobus* Ait.

Family: *Fabaceae.*

Botanical description: It is a regenerating annual or perennial herb having numerous stems 0.6-0.9m from a woody rootstock, long, prostate, wiry, slender, not at all twining, glabrous or more or less hairy. Leaves are alternate and trifoliate, petiole 3.8-7.5 cm. long, grooved, glabrous or with a few scattered hairs. Flowers are medium sized, under 2cm, reddish bluish on auxiliary racemose peduncles, linear. Pods cylindrical, 1.5-5 cm long. 2.5-3 mm wide, glabrous to sparingly pubescent with short ad-pressed hairs, black when ripe seeds are 6-12 and are uniform with a dark brown shining seed coat.

Useful part: Whole plant, root.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Quercetin, Kaempferol, Friedelin, Stigmasterol, Lysine, Valine, Vit. K&C.	Antioxidant, Hepatoprotective.	*Daha, Jvara, Vatarakta, Pittadaha, Mushikavisha, Kshaya, Krimi, Pradara, Kushta.*[12]

8. Mashaparni[13]

Latin name: *Teramnus labialis* Spreng.

Family: *Fabaceae.*

Botanical description: *Teramnus labialis* is creeper resembling that of *Masha*, leaf having three leaflets compound 5 to 10 cm long oval, Fruit 2 to 5 cm long, cured pods with fur contains 8 to 10 seeds.

Useful part: Whole plant, Root.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Essential amino acids Lysine, Leucine, Isoleucine, Arginine, Valine, Histidine.	Anti-oxidant, Anti -hyperglycemic, Anti-inflammatory.	*Atisara, Pravahika, Vatapittajwara, Raktapitta, Raktavikara, Daha, Shotha*

9. Jeevanti[14]

Latin name: *Leptadenia reticulate* W&A.

Family: *Asclepiadaceae.*

Botanical description: A twining climber shrub with branches numerous, younger ones, glabrous. Stem is yellowish, corky, deeply cracked bark. Leaves are coriaceous, ovate, acute, glabrous above finely pubescent, base cordite. Flowers are greenish white or yellow in lateral or sub axillary. Fruits sub woody 6-9 cm tapering seeds 6 mm.

Useful part: Root.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Triterpenoids, B-sitosterol, Leptidin, Stigmasterol, Leptadenol, Diosmetin Luteolin.	Antidepressant, Antioxidant Antiepileptic, Antimicrobial, Cardioprotective, Galactogogue, Hepatoprotective	*Atisara, Daha, Jvara, Kshaya, Kasa, Shosha, Mukharoga, Naktandhya, Netraroga, Raktapitta, Trishna, Urahkshata, Vrana.* [15]

10. Madhuka/Yashtimadhu[16,17]

Latin name: *Glycyrrhiza glabra* Linn.

Family: *Fabaceae.*

Botanical description: It is an herbaceous perennial, growing to 1m in height distributed in subtropical and warm temperate region with pinnate leaves about 7-5 m long, with 9-17 leaflets. Flowers are 0.8-1.2 cm long, purple to pale whitish blue produced in loose inflorescence. Fruit is an oblong pod, 2-3cm long containing several seeds.

Useful part: Root, Rhizome.

Active Constituents	Pharmacological Activities	Therapeutic Uses
Glycyrrhizin, Glycyrrhetinic acid, Isoflavonoids, Sterols, Sugars, Resin, Starch, Amino acids.	Anti-inflammatory, Antipruritic, Antiemetic, Analgesic, Aphrodisiac, Galactogogue, Antidiabetic.	*Kasa, Swarabheda, Kshaya, Vrana, Vatarakta.* [18]

Table 1: *Rasapanchaka* of *Jeevaniya Mahakashaya.*

S.No.	*Name*	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Doshakarma*
1.	*Jeevaka*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	V-P↓
2.	*Rishabhaka*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	V-P↓
3.	*Meda*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	P-R-V ↓
4.	*Mahameda*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	P-R-V ↓
5.	*Kakoli*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	V-P↓
6.	*Ksheerkakoli*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	V-P↓
7.	*Mudgaparni*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	*Tridosha* ↓
8.	*Mashaparni*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	V-P↓
9.	*Jeevanti*	*Madhura*	*Laghu, Snigdha*	*Sheeta*	*Madhura*	V-P↓
10.	*Madhuka*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	V-P↓

Table 3: *Pratinidhi Dravya* of *Jeevaniya Mahakashaya.*[19,20]

S.No.	Name	Substitute
1.	*Jeevaka* [*Malaxis acuminatum* (D. Don) Szlach]	*Vidarikanda* (*Pueraria tuberosa* (Wild.) DC), *Safed behmen* (*Centaurea behen* Linn.) and *Guduchi* (*Tinospora cordifolia* (Willd.) Miers.
2.	*Rishbhaka* [*Malaxis muscifera* (Lindl.) Kunt]	*Vidarikanda* (*Pueraria tuberosa* (Willd.) DC.) and *Lal belmen* (*Centaurtum roxburghii* (D. Don) Druce
3.	*Meda* [*Polygonatum verticillatum* (Linn.) Allioni]	*Shatavari* (*Asparagus racemosus* Willd.), *Salam mishri* (*Eulophia campestris* Wall.)
4.	*Mahameda* [*Polygonatum cirrhifolium* (Wall.) Royle]	*Shatavari* (*Asparagus racemosus* Willd.) *Nagbala* (*Sida veronicifolia* Lam.). *Shakakul mishri* (*Polygonatum multiflorum* (L.)
5.	*Kakoli* [*Roscoea purpurea* Smith]	*Ashwagandha* (*Withania somnifera* (L.) Dunal) and *Kali musali* (*Curculigo orchioides* Gaertn)
6.	*Ksheerkakoli* [*Lilium polyphyllum* D. Don]	*Ashwagandha* (*Withania somnifera* (1..) Dunal). *Safed musali* (*Chlorophytum arundinaceum* Baker)

DISCUSSION

The drugs of *Jeevaniya Mahakashaya* enhance *Ojas* thereby increasing vitality and strength. Because of this beneficial effect, these drugs can be used to promote health that is "*Swasthasyaswasthyarakshanam*" which is the foremost aim of Ayurveda. These drugs are being very essential for the proper functioning of body by providing energy, sustaining life

activities. It has a very good ability of rebuilding which can be compared to nutrients and immunity. The common features of these group of drugs are its *Kapha* promoting actions, nutritive qualities, thereby strengthening and promoting the *Rasa Dhatu*, the first tissue in the body that can nourishes all other tissues, ensuring proper tissue formation and strength. As it is known that the drugs of *Jeevaniya Mahakashaya* have not been evaluated scientifically till this date, thus the entire studies regarding the phytochemicals and pharmacological properties are of very much need.

Ten drugs are mentioned under this and among them, six drugs are enumerated in the *Ashtavarga* in *Nighantu* period. Natural habitat of most of these drugs is in Himalayan range and they are the herbs with short life span, therefore they are not easily available and with passage of time tradition of *Pratinidhi Dravya* came into existence. *Dravyas* are predominantly of *Madhura Rasa, Madhura Vipaka, Sheeta Virya and Guru, Snigdha Guna.*[19] Also, these drugs are having the predominance of *Jala* and *Prithvi Mahabhuta*. *Madhura Rasa* nourishes all the *Sapta Dhatus* and *Stanya* being the *Upadhatu* of *Rasa* is also increased.[21] All the drugs mentioned above increases the *Kapha Dosha* and pacifies the diseases occurring due to *Vatapitta Dosha* and *Raktadhatu*. *Jeevana*, *Varna Prasadana* and *Mamsapushti* are the *Prakrita Karma* of *Raktadhatu*.[22] *Rakta* due to its *Sara Guna* and *Drava Guna* circulates throughout the body with the help of *Vyanavata*.[23] *Shuddha Artava (Upadhatu* of *Rakta)* and *Shuddha Rakta* plays an important role for the formation of *Garbha*. In a review article "A physiological Study on *Rakta Dhatu*" reviles that *Rakta Dhatu* brings *Prana* to every *Dhatus*. The air inhaled during the process of inspiration becomes vital *Prana* for human body. This *Prana* by means of *Rakta Dhatu* is supplied to every organ, tissue and cell to perform their respective physiological activities. Further states that based on modern physiology it can be illustrated that *Prithvi Mahabhuta* include Serum Protein, Hemoglobin, Glucose etc. *Jala Mahabhuta* include Plasma, Lipids etc. *Agni Mahabhuta* includes Potassium, Magnesium, Iodine, Chloride, Acid phosphate, Lipase, Insulin etc, and *Vayu Mahabhuta* includes Oxygen, Carbon dioxide, Vitamin C and Thyroxin.[24] All these factors justify the *Jeevaniya Karma* of these drugs. These drugs are useful in sterility, semen related weakness, internal and external hemorrhages, dysentery, fever, emaciation, burning sensation and general debility.[25] Further the properties of drugs in *Jeevaniya Mahakashaya* are similar to the *Ojas*, therefore these drugs also help to maintain *Ojas* which is said to be the vital essence for life. As most of the drugs are having strong antioxidant potential with ability to prevent DNA damage from oxidative stress and immunomodulatory properties

showing them as a very good *Rasayana Dravya* with rejuvenating and health-promoting properties.

CONCLUSION

In ancient times, all living beings were very close to the nature, therefore they were well acquainted with plant drugs. But with passage of time urbanization has change the scenario and now due to destruction of forests the plants became less known. Necessary steps should be taken by government regarding the cultivation and collection in order to protect them from getting endangered. Micropropagation or Tissue culture techniques can be used. Further research should be done regarding phytochemical and pharmacological activities. Thus, proper use of drugs of *Jeevaniya Mahakashaya* would help to live long healthy life and to combat the diseases.

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