

Bruhaniya Mahakashaya Described in Charaka Samhita – A Review Article

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ABSTRACT

Drug is an important part of chikitsa chatushpada, which has been mentioned next to the physician in Charak Samhita. Without knowledge of the drug, the patient can't be treated properly. Bruhaniya mahakashaya is one of the 50 mahakashaya, which have been mentioned in Charak samhita sutrasthana. Bruhan is that which is useful for enlarging the body, promotes the volume as well as weight of the body. Each mahakashaya contain ten drugs.

Ksirini, Rajksavakak, Ashwagandha, Kakoli, Kshirkakoli, Vatyayani, Bhdraudani, Bhardwaji, Payasya, Rsyagandha are included in Bruhaniya mahakashaya. The present paper deals with the review of above ten drugs, controversies and mode of action of drug.

KEYWORDS: Bruhan, Bruhaniya mahakashaya

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INTRODUCTION:

The knowledge about medicinal plants in the early age was documented systematically and organized scientifically in Ayurvedic Samhitas, Nighantus and other texts. In which we can get so many references of medicinal plants. Among all this Samhitas of Ayurveda Charaka Samhita is a vast treasure of knowledge regarding medicinal plants Charaka is the first person who could classify the existing plants, into pharmacological categories and given 50 mahakashaya. According to Acharya Charaka it is only a guide line for Vaidyas but they have full freedom to add any new drug or remove the non available drugs from this.¹ Charaka stressed to utilize the knowledge and experience in drug identification resorting to the help of cowherds, hermits, huntsmen forest dwellers etc. Bruhaniya Mahakasaya is One of the fifty mahakashaya given one of them.

This work comprises the detailed description of the drugs under Bruhaniya Mahakashaya, an effort to rule out the controversies regarding some of the drugs under this varga with the help of available literatures, commentary on Charaka samhita, Nighanus and explain Bramhana karma and their mode of action in body.

1. KSHIRINI

According to Chakrapani Kshirini comes under the climber which have milky exudates. If we go though the climbers described in our nighantu and Samhita we find that Sariva is most acceptable as kshirini, because Sariva is a climber and possess milky latex and properties like madhura rasa, madhura vipaka, guru and snigdha guna. Kshirini², Dugdhavalli³, and dugdhagarbha⁴ are the synonym given for sariva.

Botanical name - Hemidismus indicus R.Br

Family – Asclepidaceae

Botanical description

ariva associate Indian medicative plant is found within the land regions up to a height of 1400 m and within the forest areas of Western Ghats.

The species is distributed throughout the tropical and subtropical parts of India, especially in upper Gangetic plains, Bengal, Madhya Pradesh, and South India. It is a perennial, slender, twining undershrub with woody and fragrant rootstock. Stems are numerous, slender, wiry, and laticiferous. Leaves are simple, opposite, variable, elliptic-oblong to linear-lanceolate, variegated, and white above and

silvery-white pubescent beneath. Flowers are greenish purple, crowded in axillary cymes in small compact clusters. Fruits (follicles) are paired, cylindrical, pointed, and slender. Seeds are oblong in shape. Flowering is usually sparse and occurs in October, while fruits mature in January⁵.

Upyuktanga - Root

Therapeutic uses - Jwara, Agnimandya, Prameha, kasa, aruchi, Tridosahar

2. RAJAKSAVAKA

Kaideva nighantu have mentioned Rajaksavaka as a synonyme of Dugdika⁶ and as well chakrpani dutt commentary on Charaka samhita also accepted rajaksavaka as Dugdika. Dugdika means one which has milk or latex. In Bhavapakash Nighantu Source of Dugdika are Euphorbia hirta, Chhoti Dudhi (Euphorbia thymifoliaoti Euphorbia microphylla Heyne⁷, Euphorbia hypericifolia). By comparing the property of these 4 species Euphorbia microphylla, Heyne is more appropriate for the Brmhana action, because in practice it is given as a stanyavardhak drug.

Euphorbia mirophylla B. Heyne

Botanical name - Euphorbia microphylla, Heyne

Family - Euphorbiaceae

Botanical description

Found all over the waste lands in India. Softly hispid prostrate herbs. Stem puberulous, slender, cylindrical, pale green but often pink in color when fresh, becoming grayish green or dark purplish on drying. Stems are with white latex, spreading on the ground. Leaves are simple, opposite, elliptic, oblong or ovate. The petiolate, 3-6 mm long, 2-4 mm wide, mostly green, but often coppery red when fresh, becoming grayish green or dark purplish on drying. Apex is obtuse or rounded. Venation is reticulate. Petiole is small, thin, slender, pale green and often pinkish in color. Fruits are ovoid-globose, acutely 3-lobed, almost sessile capsule 1 mm × 1 mm base truncate, short-hairy. Seeds are conical, log, ovoid and obtusely quadrangular, up to 1 mm long, acutely 4-angled, reddish brown without caruncle⁸.

Upyuktanga - whole plant,

Therapeutic uses - Svasa, Krmi, Kustha, Prameha, Raktapitta, Pravahika, Raktarsa, Palita, Danta-ghuna, Dadru, Spkota, stana, **stanyashaya** (swarasa is used)

3. ASWAGANDA

Botanical name - Withania somnifera Dunal.

Family - Solanaceae,

Botanical description

A perennial shrub, found in waste land, widely cultivated in certain areas of Madhya Pradesh and Rajasthan, roots collected in winter, washed and cut into short pieces. An erect branching undershrub reaching about 5 cm in height usually clothed with minutely stellate tomentum leaves ovate up to cm long, flower greenish or lurid yellow in axillary fascicles, fruit globose berries which are orange coloured when mature enclosed in a persistent calyx. The fleshy roots when dry are cylindrical gradually tapering down with a brownish white surface and pure white inside when broken⁹.

Upyuktanga - Dried mature roots

Therapeutic uses - Sotha, Kshaya, Daurbalya, Vataroga, Klaibya, Excessive emaciation, balasosa, Insomnia.

4. KAKOLI

Botanical name - Lilium polyphyllum D. Don

Family Liliaceae

Botanical description

Distribuition - A plant found growing in Western temperate Himalayas from 1800-3600 m from Kumaon to Kashmir. The bulb of L. polyphyllum is morphologically an underground stem with fleshy conical, translucent scale-leaves and roots attached with basal plate. L. polyphyllum is a perennial bulbous herb grows up to 1m in height and possesses hollow stem. leaves in whorls, many nerved narrowly lanceolate or linear, margins papillose, flowers 4-10, pendulous fragrant dull yellowish or greenish out side, white within speckled with long purple streaks in racems raised on the naked top of the stem parlanth recurved when fully expanded fruit a capsule¹⁰.

Upyuktanga -- Dried tuberous root

Therapeutic uses - Kshaya, Raktapitta, sosha, Jvara, Svasa, Kasa, Daha.

5. KSIRAKAKOLI

Botanical name - Fritillaria roylei Hook.

Family - Liliaceae

Botanical description

A glabrous herb 6-24 m in height, found in Western temperate Himalayas from Kumaon to Kashmir. The leaves are opposite or whorled, linear-lanceolate, flowers are solitary and yellowish-green to brownish-purple. Flowers are bell shaped, hanging looking down, borne singly on the stem but sometimes in a group of two or more. Petals are narrow ovate 4-5 cm long¹¹.

Upyuktanga - Dried whole bulb

Therapeutic uses - sosa, Daha, Hrdroga, Jvara, Kasa, Kshaya, Raktadosa, Raktapitta, Raktaroga, sávasa, Vaatarakta, Yoni Vyapad, Vatavyadhi, Vatapittaruja

Both kakoli and Kshirkakoli are endangered Himalayan species. These are important constituent of Astavarga, Chyavanprasha and other ayurvedic formulations. According to Bhavaprakasha nighantu Ashwagandha is used for the Substitue for both the drugs¹²

6. VATYAYANI -BALA (ROOT)

Botanical name - Sida cordifolia Linn

Family-Malvaceae

Botanical description

Distribution - Found throughout the Warmer parts of India as a weed of waste land. A small downy erect herb up to 1.5 cm in height, with long branches, sometimes rooting at nodes. Tap root long thick Yellowish Brown in colour. Leaves cordate, oblong ovate or ovate oblong, petiole as long as the blade. Flowers yellow or white. Fruit a depressed globose schizocarp type. Seeds are Smooth grey¹³.

Upyuktanga - Moola

Therapeutic uses - Vatavyadhi, Kshaya, Krushata, Prameha, Hrddaurbaya

7. BHADRAUDANI

The exact source of this drug is not known. In some book Bhadrodani is given synonyms of Bala (*Sida cordifolia*)¹⁴

8. BHARDWAJI (VANAKARPASA)

Vanakarpasi is known as Bhardwaji since its name is given by Rishi Bhardwaja¹⁵

Botanical name- *Thespesia lampas*

Family - Malvaceae

Botanical description

Common throughout in India. It is an erect slightly branched shrub 2-3 m in height. The leaves are alternate, simple, ovate, 10-20 cm long somewhat 3-lobed or nearly entire, green and nearly smooth on the upper surface, somewhat hairy beneath. The flower is regular, bisexual, hypogynous. Calyx- sepals 5, corolla petals 5, yellow with dark purple center. The capsules are ovoid and about 3 cm long with 4-5 valves¹⁶.

Upyuktanga – Mula, fruits

Therapeutic uses - Daha, Srama, Bhranti, Murccha, Stanyaksya.

9. PAYASYA (VIDARĪKANDA)

Botanical name- *Pueraria tuberosa* DC.

Family Fabaceae

Botanical description

Distributed all over India. It is a large, perennial climber with tuberous roots, upto 60 cm long and 30 cm thick, even weighing upto 35 kg, from about 5 or 10 kg. Leaves 3 foliate leaflets broadly ovate or rhomboid subcoriaceous glabrescent above and silky beneath. Flower blue or purplish blue in colour. The fruit pods are linear, about 2-5 cm (0.79-1.97 in) long and constricted densely between the seeds. They have silky, bristly reddish-brown hair. Seeds vary from 3 to 6 in number¹⁷.

Upyuktanga - Tuberous root

Therapeutic uses – Sula, Daha, Kasa, Kshaya, Mutrakrcchra, Raktadosa, Raktapitta, Visamajvara, Visarpa, sukraksaya

10. VRSYAGANDHA (VRIDHADARU)

According to bhavaprakasha nighantu Vrsyagandha is the synonyms given for vrudhadaru¹⁸ and chakrapani confirmed it as Shatavari. But according to synonym and botanical description here Vrsyagandha taken as a Vrudhadaru¹⁹.

Botanical name- *Argyreia speciosa* Roxb

Family- Convolvulaceae

Botanical description

It is woody climber found throughout India, up to an altitude of 300 m. Common in Assam, West Bengal, Bihar, Orissa and South India. The roots of *Argyreia speciosa* are varying in size as well as in thickness. The thin roots are usually 2-4 mm in diameter and show somewhat smooth brownish exterior. The stem is white and tomentose in young stages. The older stem (25 mm) is so thick that it shows vertical ridges and numerous lenticels, which are mostly transversely elongated. The lower surface of the leaf is entirely covered with hair, which gives the leaf a silvery soft wooly appearance. The upper surface of the leaf is green, glabrous and shows the markings of nerves by slight depressions. The margin is entire but slightly wavy near the base. Lateral nerves 14-20 pairs arise alternatively on the midrib; the single nerves bifurcate before reaching the edge; the anterior branch unites with the posterior one of the neighboring nerve; an arched nervule connecting the two branches reach the margin. Petioles stout and cylindrical, a little shorter than the length of the blade are completely covered with wooly tomentum. The seeds are more or less triangular

Upyuktanga - Roots

Therapeutic uses – Rasayana, vrsya, balya Amavata, Arsas, Sotha, Prameha Agnimandya

KARMA

The word karma is a very comprehensive term denoting all the actions for the maintenance and promotion of health as well as prevention and eradication of all diseases. It denotes Pharmacodynamics of a drug. Bruhana property belong to the bruhaniya mahakashaya.

BRIMHANA KARMA

It is an important upakram in shadupakrama & Dwividopakrama and an important treatment modalities for many diseases. The nirukti of bruhana karma is to More increase, Purposeful increase, to make body stout.²⁰ Anything which increase the size of body or whatever adds to the corpulence of the body is bruhana or nourishing therapy²¹. Bruhaniya is that which is useful for enlarging the body, promotes the volume as well as weight of the body. (Gangadhara). Guru, Sita, Mrudu, Bahal, Sthula, Picchila, Manda, are the properties of bruhana dravya.²² This bruhana guna also similar to the Ojas guna.²³ Ojas is the Sara of all the Dhatus. Therefore we can state that bruhana dravya nourishes all the Dhatus. The panchabhautik composition of Bruhan dravya is Pruthvi and Aap mahabuta.²⁴ Bruhana is samana for vata and vatapitta combination.²⁵ Person requiring this therapy are Krusha, Kshina due to vyadhi, excess intake of madya, who indulge in lifting heavy weights, garbhini, bala, vrudha etc. such person need this therapy all the more during summer²⁶. Bruhana of body increase in size & weight of Body By increasing Carbohydrates, Protein & Fat content in our body.

ANALYSIS OF BRMHANA DRAVYAS THROUGH RASAPANCHAKA

| DRAVYA | RASA | GUNA | VIRYA | VIPAKA | KARMA |
|---|----------------------------------|-----------------------------|-------|------------------|--|
| Kshirini(Sariva) ²⁷ | Madhura | Guru, snigdha | Shita | Madhura | Dipana |
| RAJAKSAVAKA ²⁸ (Dugdika) | Madhura, Lavana, Katu, Tikta | Guru, Ruksha, tikсна | Ushna | Katu | Vrsya Dhatuvrddhikara, stnyavardhak |
| ASHWAGANDHA ²⁹ | Tikta, kashaya | Laghu | ushna | Madhura | Rasayana, Balya, Vajikaran |
| KAKOLI ³⁰ | Madhura | Guru | Shita | Madhura | Brmhana, Sukrala |
| KSIRAKAKOLI ³⁰ | Madhura | Guru, Snigdha | Shita | Madhura | Rasayana, , Vrsya, Brmhana, Stanyajanna sukravardhaka |
| VATYAYANI3 (Bala) ³¹ | Madhura | Guru, Snigdha, Picchila. | Shita | Madhur | Vrsya, Balya, Rasayana, sukrala, |
| BHADRAUDANI (Bala) ³¹ | Madhura | Guru, Snigdha, Picchila | Shita | Madhura | Vrsya, Balya, Rasayana, sukrala |
| BHARADWAJI (Vanakarpasa) ¹⁵ | Madhura | Guru, Snigdha | Shita | Madhura | Vriya, Stanyajanana, Kaphakara |
| PAYASYA (Vidarikanda) ³² | Madhura | Guru, Snigdha | Shita | Madhura | Balya, Brmhana, Vrsya, Stanyadu, Rasayani, Jivaniya |
| RYSYAGANDHA (Vruddhdaru) ³³ | Katu, Tiktha, Kasaya, Madhura | Sara, Laghu, Snigdha | Usna | Katu, Madhura | Rasayana, Vrishya, Balya, Agnivardhanam |

DISCUSSION

From the above table it is clear that almost all the drugs mentioned in the Brmhaniya mahakashaya have Madhura rasa, Guru, Snigdha guna, Seeta Virya and Madhura vipaka Except- Dugdika, Ashwagandha, Vruddhdaru Considering each one in detail

Functions of Madhura rasa³⁴ – Madhura rasa is rasadi sapta dhatu vardhaka, ojovardhaka, nourishing the sence organs, Balakara, Bruhana, Sthariyakara and stnyavardhaka. Panchbhautic composition of madhura rasa is Prithvi and jala

Function of Seetha Virya³⁵ – It is Prahladana, Sthirikaran, jeevan, balya, prasada, stambhana and kledana. Panbhautic composition of Shita virya is Jala mahabhuta predomance

Function of Madhura vipaka³⁶ – On dhatu it acts as a shukral, on Dosha it acts as Vathapittahara, kaphavardhana. Panbhautic composition of Madhura vipaka Prithvi –jala predomance

Function of Guru-snigdha Picchila guna³⁷ –

Guru – Guru guna is bruhana, balakrit, pustikrit, vrushya, kaphavardhaka. Panchbhautic composition of guru guna is Prithvi jala predomance

Snigdha – Snigdha guna is balya, snehana, mardava vrushya and kaphavardhaka. Panchbhautic composition of snigdha guna is jala predomance

Picchila guna – Picchila guna is Jeevaniya, Balya, guru, and kaphavardhaka. Panchbhautic composition of picchila guna is jala predomance Properties of drugs according to bhautic composition. Parthiva dravyas - Upchaya (Development), sanghata (compactness), guruta (heaviness), sthirta (firmness) Apya dravyas - Sneha (unction), mardav (softening) . From these details we got a conclusion showing how these drugs under brmhana Mahakashaya showing brmhana action.

PROBABLE MODE OF ACTION OF BRIMHANA DRAVYA'S Probably mode of action of Brimhana Dravya's can be accessed on the ground of its Gunapanchaka. It is found that

majority of ingredients have predominance of Madhura Rasa, Shita Virya, Madhura Vipaka, Guru snigdha guna and Vatapitta Shamaka, these all properties nouries all Dhatus and enhancement of Dhatu-poshaka Tatwa, results in correction and promotion of the Dhatus causing Brimhana effect.

Probable Mode of action Dugdika, Ashwagandha, Vruddhdaru-

Agnimandya, production of Ama, Srotorodha, and vitiation of Vata Dosha are the major events in the pathogenesis of Dhatu Kshaya. Drugs having pharmacodynamics i.e. Tikta-Katu Rasa, Ruksha-Laghu Guna, Ushna-Virya, Katu Vipaka and Kapha-vatahara properties which all are useful in breaking of etiopathogenesis of Kshaya. Tikta, Katu Rasa, Ushna Virya and Snigdha Guna (from other 7 drugs) that might have helped in normalizing the Agni, the movement of vitiated Vata Dosha.

Sara guna due to the anulomana nature attained by the laxative action, it helps to alleviate apanavayu which further normalizes vata. This in turn helps in the homeostasis of the three humours of the body, which regularize the digestive fire leading to a proper metabolism.

UshnaVirya, Laghu Ruksha, Tikсна guna- helps to alleviate srotopalepa and with the help of sara guna the action of the drug becomes more rapid and easier

CONCLUSION

- Brimhana Dravya predominantly comprises of Parthiva and Apya Bhavas.
- Vatapita hara properties.
- Brimhana means proportionate body composition mainly through Kapha, Mamsa and Meda that leads to proper development and enhancement of different body part.
- Probably mode of action of Brimhana Dravya's can be accessed on the ground of its Gunapanchaka. It is found that majority of ingredients have predominance of Guru, Snigdha, Shita and Manda Guna, Madhura Rasa and Madhura Vipaka causing Brimhana effect.
- Apart from this with some drugs in brmhaniya dashaimani are Tikta kasaya rasa, Laghu, Tikсна guna, UshnaVirya, kau vipaka help in regularize the Agni

leading to a proper metabolism and alleviate srotopalepa. During the treatment of Karshya one should be cautious that Brimhana Dravya's used in such instances should be Laghu Santarpana in nature because already in an emaciated person Sharirbala and Agnibala are reduced. So over all action – brmhana. Some act by – Clearing the sotasa and Correcting agnibala. Others nourishes all dhatus.

- [18] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 409
- [19] P Y Ansary, A hand book of plant sources of indigenous drugs. International book distributors, deharadun 2005 page 29
- [20] Astang Sangrah Of Srimad Vruddha Vagbhat by Dr. Ravi Dutt Tripathi, Chaukhamba Sanskrit Prathisthan 2001
- [21] Carak samhita by Vd. Harish handra singh Kushwaha, Chaukhamba orientalia Varanasi, First edition 2005, Page- 320
- [22] Carak samhita by Vd. Harish handra singh Kushwaha, Chaukhamba orientalia Varanasi, First edition 2005, Page- 320
- [23] Carak Samhita Of Agnivesh by Vidyadhar shukla and Prof. Ravi dutt Tripathi, Chaukhamba Sanskrit Prathisthan Delhi 2004 page 581
- [24] Susruta Samhita Vol -1 by Dr. Anant Ram Sharma, Chaukhamba surbharti prakashan, Varanasi 2004 page 323
- [25] Astang Sangrah Of Srimad Vruddha Vagbhat by Dr. Ravi Dutt Tripathi, Chaukhamba Sanskrit Prathisthan 2001
- [26] Carak samhita by Vd. Harish handra singh Kushwaha, Chaukhamba orientalia Varanasi, First edition 2005, Page- 326
- [27] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 426
- [28] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 459
- [29] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 393
- [30] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 62
- [31] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 366
- [32] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 387
- [33] Bhavprakasha Nighantu (Indian material medica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No 408
- [34] Astangahrdaya, Hari sadasiva sastri Parakara, Bhisagacarya. Chaukhamba surbhartiPrakashana 2007 page No 175
- [35] Astangahrdaya, Hari sadasiva sastri Parakara, Bhisagacarya. Chaukhamba surbhartiPrakashana 2007 page No 169
- [36] Carak samhita by Vd. Harish handra singh Kushwaha, Chaukhamba orientalia Varanasi, First edition 2005, Page- 392
- [37] Susruta Samhita Vol-1 by Dr. Anant ram Sharma, Chaukhamba SurbhartiPrakashana, Varanasi 2004 Page- 449

REFERENCES

- [1] Carak samhita by Vd. Harish handra singh Kushwaha, Chaukhamba orientalia Varanasi, First edition 2005, Page - 68
- [2] https://en.wikipedia.org/wiki/Hemidesmus_indicus dated 4/12/2020
- [3] Shodhala Nighantu : Edited by Acharya P. V. Sharma, 1st Edition 1978, Mahajara Sayajirao University, Baroda
- [4] Bhavprakasha nNighantu (Indian material mmedica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 426
- [5] <https://vikaspedia.in/agriculture/crop-production/package-of-practices/medicinal-and-aromatic-plants/hemidesmus-indicus> dated 4/12/2020
- [6] P. V. Sharma and Dr. Guru Prasad Sharma; Kaiyadeva Nighantu; Choukhamba orientalia, Varanasi page no.694
- [7] Bhavprakasha nNighantu (Indian material mmedica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 458-459
- [8] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3902538/> dated 5 /12/2020
- [9] J. L. N. Sastry; Illustrated DravyagunaVijnana Volume 2; Choukhamba Orientalia, Varanasi 2008 ; page no.376
- [10] Sourabh, Pragya & Thakur, Julie & Uniyal, Prem & Pandey, Arun. (2015). Biology of Liliium polyphyllum- A threatened medicinal plant. Medicinal Plants - International Journal of Phytomedicines and Related Industries. 7. 158
- [11] Bisht, Vinod & Negi, Bir & Bhandari, Arvind & Kandari, Laxman Singh. (2016). Fritillaria roylei Hook. in Western Himalaya: Species Biology, Traditional Use, Chemical Constituents, Concern and Opportunity. Research Journal of Medicinal Plants. 10. 375-381.
- [12] Bhavprakasha Nighantu (Indian material mmedica) Dr. K. C. Chunekar Dr. G. S. Pandey. Chaukhamba Bharti Academy, Varanasi, 2006 page No. 63
- [13] J. L. N. Sastry; Illustrated DravyagunaVijnana Volume 2; Choukhamba Orientalia, Varanasi 2008 ; page no.89
- [14] P Y Ansary, A hand book of plant sources of indigenous drugs. International book distributors, deharadun 2005
- [15] Nighantu Aadarsha by Bapalala Vaidya Vol-1 Chaukhambha bharti academy, Varanasi 2007 page no 147
- [16] Dr. Ashok wali, Dr. Madhukar Bachulkar, Traditional herbal drugs, Ankur publication Kolhapur. 2016
- [17] https://en.wikipedia.org/wiki/Pueraria_tuberosa dated 2-12-2020 dated 2/11/2020