



ISSN 2456-3110

Vol 5 · Issue 5

Sept-Oct 2020

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



Charaka
Publications

Indexed

Ashvabala (*Medicago sativa* Linn.) Nari Aushadhi - A Review

Dr. Rita Gaurav Mandle¹, Dr. Vivek Murlidhar Chaudhari²

^{1,2}Assistant Professor, Dept. of Dravyaguna Vigyana, Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune, Maharashtra, INDIA.

ABSTRACT

Ashvabala is Rasayana drug mentioned in Ayurveda. It has synonyms like Vanamethika, Hisphitha and Ghodghas but best word mentioned in Charaka Samhita is Nari Aushadhi i.e. Good for Female's problems. Ashvabala Rasayana is not only the rejuvenation medicine, but also versatile tonic for female reproductive systems. In spite of Rasayana, Ashvabala is beneficial in female's reproductive system starting from menarche to menopause. It is useful in female infertility, maintain sex organ health, enhance folliculogenesis and ovulation, prepare womb for conception, balance hormones, fetal growth, post-partum as galactagogic and also useful in menopausal symptoms. Like Shatavari and Ashvagandha, Ashvabala is also good Nari Rasayana - A Versatile Female Tonic.

Key words: Ashvabala, Nari Aushadhi, Rasayana.

INTRODUCTION

Ayurveda is the system of traditional medicine which shows preventive as well as curative effects against diseases. Ayurveda mostly categorized into eight branches, i.e. Ashtanga Ayurveda. In this, Rasayana Chikitsa i.e. a Rejuvenating therapy deal with various diseases associated with aging. Acharya Charaka separately mentioned Rasayana chapter. Rasayana drugs balance the Dosha, Dhatu and Mala which helps to increase physical and mental strength and destroy diseases. Rasayana has marked action on the reproductive

System and Shukra Dhatu. During life cycle, the woman's life is guided by hormonal cycles, from puberty to menopause where a healthy cycle and hormonal balance will impact on a woman's whole bodily health, vitality, and general wellbeing. Menstruation i.e. Rituchakra is mainly divided into three phases Ritu Kala (proliferative phase + ovulation), Ritu Vyatit Kala (secretory phase) and Raja Kala (menstrual phase), where all phases are controlled by three Doshas.

The Rasa Dhatu and Rakta Dhatu with other tissues are building blocks of the reproductive system. Artava is eight Dhatu for females, which is also Updhatu of Rasa Dhatu and is correlated with menstruation. Along with the Dhatus, Doshas play an important role in the menstrual cycle. They are present in whole life cycle starting from birth to end and also in Rituchakra from Ritu Kala to Raja Kala. The most important Dosha that regulates the menstrual cycle is Vata. The menstrual cycle occurs normal when the Apana Vata situated in the pelvic has flows in the right direction. When there is an imbalance between the Doshas the menstrual cycle gets disrupted and the gynaecological diseases are formed. So, if you can regularize the normal flow of Vata, it will solve maximum problems

Address for correspondence:

Dr. Rita Gaurav Mandle

Assistant Professor, Dept. of Dravyaguna Vigyana, Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune, Maharashtra, INDIA.

E-mail: dr.ritaratnaparkhi7@gmail.com

Submission Date: 13/09/2020 Accepted Date: 24/10/2020

Access this article online

Quick Response Code



Website: www.jaims.in

Published by Maharshi Charaka Ayurveda Organization, Vijayapur, Karnataka (Regd) under the license CC-by-NC-SA

related to menstruation. Today, problems of gynecology are increasing day by day and Ayurveda has lot to contribute in treatment.

Ayurvedic medicines are proven to be both effective and efficient on problems related to menstruation. Many medicinal herbs like *Ashok*, *Shatavari*, *Ashvagandha*, *Kumari*, *Sariva*, *Yashtimadhu*, *Aamalaki* etc. are helpful in menstrual related problems. As understood by Ayurveda, *Ashvabala* is one of the *Rasayana* drug mentioned in *Charaka Samhita*.^[24] *Acharya* mentioned *Ashvabala* (*Medicago sativa* Linn.) as *Nari - Aushadhi* means "Best medicine for Females". In spite of being a rejuvenating herb, it is beneficial in treating problems related to gynaecological disorders starting from menarche to menopause. Going through literature review *Dhanvantari Nighantu* mentioned *Ashvabala* as *Van-Methika* which has similar properties like *Methika*.^[17] Dr. *Bapalal Vaidya* identified *Ashvabala* as *Medicago sativa* Linn. i.e. Alfalfa.^[4] In the Arabic word, *Medicago sativa* Linn. named as Alfalfa means "father of all the foods". After study of all literature, *Ashvabala* not explore yet. *Medicago sativa* Linn. has long been used as traditional herbal medicine in China, Iraq, Turkey, India and America for the treatment of a variety of ailments. So here an attempt has been made to explore that the *Ashvabala* is good female tonic in gynaecological condition.

MATERIALS AND METHODS

Ayurvedic classical texts, compendia, *Dravyaguna* literature, journals and internet publications were comprehensively reviewed for compiling significant data about *Ashvabala*.

OBSERVATION AND DISCUSSION

Ashvabala in classical texts^{[16], [17],[24],[25]}

S N	Name of book	Varga (Class)	Vyadhi (disease)	References
1.	<i>Charaka Samhita</i>	<i>Rasayana</i>	Rejuvenating therapy	<i>Cha. Chi. 1-4.7</i>
2.	<i>Sushruta</i>	<i>Shaka Varga</i>	Wound healing,	<i>Su. Su. 46/</i>

	<i>Samhita</i>		treatment of piles	256, 261 <i>Su. Chi. 1/113</i> <i>Su. Chi. 6/8</i>
3.	<i>Dhanvantari Nighantu</i>	<i>Suvarnadi Varga</i>	Similar to <i>Methika</i> and useful for horses	<i>Suvarnadi Varga / 101</i>
<i>Cha. Chi - Charaka Chikitsasthana, Su. Su. - Sushruta Sutrasthana, Su. Chi. - Sushruta Chikitsasthana</i>				

Rasapanchaka^{[4],[16],[24],[25]}

- *Rasa - Tikta, Katu, Kashaya*
- *Vipaka - Katu,*
- *Veerya - Ushna*
- *Guna - Snigdha, laghu*
- *Doshghnata - Vataghna, Pittaghna, Kaphaghna.*

Scientific classification

- Kingdom : Plantae
- Division : Angiosperms
- Class : Dicots
- Order : Asparagales
- Family : Fabaceae
- Genus : *Medicago*
- Species : *Medicago sativa* Linn.

Vernacular Names

- Common Name - Alfalfa, Bastard Medic, Buffalo Herb, Lucerne, Purple Medic.
- Sanskrit - *Ashvabala*,
- Gujarati - *Vilayati Ghas*,
- Hindi - *Lusan Ghas*,
- Kannada - *Lusarne Soppu, Vilayati Hullu*,
- Marathi - *VilayatiGavata*,
- Oriya - *Dureshta, Sinji*,
- Tamil - *Kutirai Macal*.

Plant Description^[21]

Ashvabala is a perennial herb growing upto 1m high. Leaves are pinately trifoliate. Leaflets are obovate - oblong, dentate towards apex, 1-4.5 cm long, 3-10 mm broad, smooth hairy, pale green beneath. 1.0- 2.5 cm long, dense axillary racemes are present. Flowers are purple or violet 6-15 mm long. The Pod is 3-9 mm in diameter, slightly pubescent with 2-3 spirals; seed is 6 or 8 in number, yellow to brown, kidney shaped

Chemical constituents^[21]

Medicago sativa Linn. contains a variety of phytochemicals.

Alkaloids: Asparagines, Trigoneline, Stachydrine, L-Homostachydrine.

Amino Acids: Medicanine, Lysine, Arginine, Histidine, Tyrosine, Phenylalanine, Methionine, Aspartic Acid, Glutamic Acid, Asparagine, Serine, Alanine, Threonine, Carotene.

Coumarins: Myrsellinol, Scopoletin, Esculetin, 4-Coumaric Acid.

Digestive Enzymes: Isoflavone Reductase, Vestitone Reductase, Iminopeptidase, Aminopeptidases

Flavonoids: Quercetin, Myricetin, Luteolin, Apigenin, Chrysoeriol, Tricin, Medicarpin, Sativan, Vestitol, Formononetin.

Minerals: Ca, K, P, Mg, Fe, Zn, Cu, Al, B, Cr, Co, Mn, Mo, Se, Si, Na, Sn.

Non-Protein Amino Acids: L-Canaverin.

Organic Acids: Citrate, Malate, Malonate, Succinate, Fumarate, Lactate, Benzoate.

Phenolic Compounds: *P*-Hydroxybenzoic Acid, Vanillic Acid, *P*-Coumaric Acid, Ferulic Acids, Salicylic Acid, Sinapic Acids, Caffeic Acid, Hesperetin, Naringenin, Chlorogenic Acid, Tannic Acid, Heterosides.

Phytoestrogens: Coumestrol, Genistein, Formometin, Diadzein, Biocanine.

Phytosterols: B-Sitosterol, Stigmasterol.

Polyamines: Norspermidine, Norspermine.

Protein: Ferritin, Protein Phosphatase 2A Holoenzyme, B-Amylase

Saponins: Soyasapogenols, Hederagenin, Medicagenic Acid

Sterols: A-Spinasterol, B-Sitosterol, Stigmasterol, Myrsellinol, Scopoletin, Esculetin, Dihydrospinasterol, 24-Methylcholest-7-Enol, Stigmasterol, Campesterol.

Thyrotropin - Releasing Hormone Analog

Vitamins: A, B1, B6, B12, C, D, E, K, Niacin, Pantothenic Acid, Biotin, Folic Acid.

Volatile Components: Terpenes, Limonene, Linalool, Transocimene, Furanoids

Dose: Dried herb - 5 to 10 gm / 3 times daily

Liquid extract - 5-10ml (1:1 25% alcohol) three times in a day

Part used: Flowers, whole herb, leaves, seeds.

Distribution: *Ashvabala* is commonly grown throughout the Bombay presidency and greater part of India.^[22] Worldwide production found in the United States, Canada, Argentina, Italy, Russia, China, Europa, America, Asia and Africa.

Preparations available in market

Ashvabala available as dried leaves and seeds. They include powder, capsules, tablets, liquid extracts, and tea. The sprouts can used in salads, soups, casseroles, other prepared foods, and beverages.

Pharmacological uses

Ashvabala (*Medicago sativa* Linn.) has long been used as traditional herbal medicine in India and also in China, Iraq, Turkey and America for the treatment of a variety of ailments but there is very less scientific evidences available to support it. It is used to improve the memory, cough, sore muscles, as a rejuvenator, ant diabetic, antioxidant, anti-inflammatory, antifungal, anti-asthmatic, antimicrobial, diuretic, galactagogue and in central nervous system (CNS) disorders also beneficial in gastrointestinal tract disorders, anti-canceraction, prostate disorders, jaundice, menopausal symptoms, nutritional support, uterine stimulant, rheumatoid arthritis, scurvy,

vitamin supplementation (vitamins A, C, E, K) and wound healing.^[11]

AYURVEDIC CONCEPT

In Ayurvedic classics the Gynecological disorders have been described under *Yonivyapad* while Menstrual disorders under *Ashtartavadushti* (eight menstrual disorders). As per *Charaka's* opinion, among the three *Doshas*, *Vata Dasha* is one of the major factors in *Yoniroga* and *Ashtartavadushti*. For this, *Rasayana* and *Vajikarana Chikitsa* is prescribed by *Acharya*.^[5] *Ashvabala Rasayana* balances all the three *Doshas* by the action of their *Rasa Panchaka*. *Ushna Virya* alleviate *Vata*. *Katu Rasa*, *Katu Vipaka* and *Ushna Virya* alleviate *Kapha*, it destroys *Samta* of *Pitta* and does not allow *Pitta* vitiation further more. *Tikta Rasa* performs *Dhatvagni Dipana* and *Dhatugat Samata Pachana* resulting into *Pitta Shamaka* and *Rakta Shuddhikara*. So, *Ashvabala* could be useful in treating problems related to menstruation from menarche to menopause. *Acharya Sushruta* mentioned property of *Ashvabala* as *Pushtidama*, that means *Ashvabala* is a more nutritive drug. It nourishes all *Dhatus* starting from *Rasa* to *Shukra* and also to *Aartva*. According to its *Dosha Shamana Guna* and *Dhatu Pushtikara Guna*, it improves overall health and also the health of the reproductive system.^[25]

Effect in young females - problems related with menstruation

Most women of reproductive age have emotional or physical symptom in the premenstrual phase due to hormonal imbalance. *Ashvabala* aerial parts are very nutritive. It contains some important groups like Phytoestrogens. The three major Phytoestrogens coumestrol, genistein and formononetin are found in *Ashvabala* and two less potent diadzein and formononetin also. Coumestrol is most hormonally active; it has more estrogenic activity than estradiol. These Phytoestrogens show balancing effect of estrogenic activity, i.e. it may be useful in Hypoestrogenism and Hyperestrogenism. In hyperestrogenism, the relatively weak acting phytoestrogen will compete for the binding site, thus reducing the number of receptor available for

endogenous estrogen which resulting into reducing in net estrogenic stimulation. This effective action is mostly useful in excess estrogen condition such as pre-menstruation syndrome.^[26] *Ashvabala* has been also helpful in relieving irregular menstruation, reducing heavy bleeding, clotting and inflammation (symptoms of endometriosis).

Effect in female infertility

Common causes of infertility in women are ovulation problems, i.e. Anovulation, poor egg quality, problems with the menstrual cycle, and structural problems in the reproductive system, any infection, and failure of an egg to mature properly, implantation failure, polycystic ovarian syndrome, hormonal imbalance and endometriosis. *Ashvabala* is one of the drugs used for female problems in Ecuadorian traditional medicine to treat female infertility. It shows estrogenic effect manifested in the increased weight of body and reproductive organs. It shows significant effect on hormonal balance by increased in LH and estradiol concentration, also increases ovarian follicles and corpus lutea which results in good ovulation with progesterone balance and endometrial thickness with increased in uterine epithelial cell's height. These all are favorable conditions for fertilization. From all these study, it is clear that *Ashvabala* can be used in treatment of infertility.^{[2],[12],[13],[15]}

Effect in Pregnancy concept as Pre- conception:

The effects of *Ashvabala* flavonoids on reproductive performance, reproductive organs, hormone level and gene expression in the hypothalamus-pituitary-ovarian gonadal axis in pregnant animals are also studied. The study revealed that, the reproductive performance of rats was improved. There was significantly increased in size and weight of live fetus, also GnRH in the hypothalamus and FSH in the pituitary were reduced by alfalfa flavonoids. The high dose of alfalfa flavonoids shows that FSHR in the ovaries was reduced by but LHR was increased. The *Ashvabala* flavonoids influenced the hypothalamus-pituitary-ovarian gonadal axis resulting in improvement in reproductive system in rats.^[27]

So, *Ashvabala* shows a positive effect on female reproductive system by improvement in reproductive organs with their functions. It maintains hormonal balance, help in ovulation, and progesterone balance with increased in endometrial thickness, which are favorable for pre-conception and pregnancy preparation. Preconception herbs are best used at least 3-6 months prior to conception.

Effect in Post-partum as Galactagogue

Galactagogues are substances which help to assist in the initiation, continuation and augmentation of breast milk production. They include pharmaceutical agents and herbal supplements. *Ashvabala* is considered as Galactagogue. For many years, Alfalfa has a long history of use in women's health. It has been consumed by nursing mothers to help in production of breast milk. When taken in moderation, it is safe, nutritious and is safe for the baby. Many midwives encourage to patients to take *Medicago sativa* Linn. for at least six weeks before birth and for several months afterwards, which help to avoid hemorrhage at the birth and to help the body recover and increases breast milk.^{[14],[19],[20]}

Effect in Menopause

Phytoestrogens present in *Ashvabala* show balancing effect in hypoestrogenism. In hypoestrogenism, plant estrogen will directly bind to estrogen receptor and provide estrogenic effect. This effective action is mostly useful in less estrogen conditions such as symptoms of menopause like hot flashes, nocturnal/night sweats, palpitations, irritability, mood swings, dizziness and also in menopausal vaginal atrophy and dryness. A clinical trial conducted to see the efficacy of *salvia officinalis* (sage) and *Medicago sativa* Linn. extract on 30 women who were suffering from menopausal hot flashes, nocturnal/night sweats, palpitations, irritability, mood swings, dizziness, headache and palpitation. The results showed that plants have slight antidopaminergic action with improvement and reduction in symptoms. *Medicago sativa* Linn. is effective in the treatment of menopausal syndrome.^{[18],[23]}

Effect in Osteoporosis

The lower level of reproductive hormones related to menopause will increase the risk of osteoporosis, bone fractures. Kaempferol, syringic acid, naringenin and myricetin present in *Ashvabala* prevented bone loss induced by oestrogen deficiency, this effects was more similar to 17 β -oestradiol.^[9] Genistein has good action on bone formation. It stimulates bone formation, inhibit bone resorption and prevent the bone loss. *Medicago sativa* Linn. is good source of calcium, Vitamin K, Vitamin D2 and D3 and also Genistein. Overall *Ashvabala* has potential against osteoporosis.

Effect in Anaemia

Anaemia is common nutritive problem cause by inadequate iron diet or excessive blood lost via menses, uterine bleeding and other disorder. Vitamin B12 or folic acid deficiency causes pernicious anemia. Various herbal drugs provide an absorbable and bioavailable form of iron which are more effective than iron supplements. *Ashvabala* is high in protein and contains vitamins A, B1, B6, B12, C, E and K, along with the mineral's calcium, potassium, phosphorus, iron, and zinc also have high hemoglobin building chlorophyll. Its leaves have been used as a nutritive tonic to stimulate the appetite and promote weight gain. The study on *Ashvabala* leaves clearly shows that *Ashvabala* is more effective and alternative to iron and folic acid supplements for treating the anaemia.^[1]

Effect in Breast cancer

The breast cancer is most common cancer in women, which is mostly associated with endogenous estrogen. Phytoestrogens and isoflavones show action on breast and endometrial tissue. Phytoestrogen and estrogenic activity of *Ashvabala* shows anti cancer's effect against hormone dependent cancer. The *Ashvabala* extract was tested in mice on breast cancer. The isoflavones of *Ashvabala* show results on reproductive hormone and on lipid profile. The level of estradiol, HDL and total cholesterol was significantly decreased. So the *Ashvabala* may be useful in Breast cancer.^{[8],[28]}

DISCUSSION

Ashvabala act on all the three *Doshas* and also on *Dhatus*, which help to cure all gynecological problems. As *Ashvabala* is a good source of nutrients, it proved the property of *Pushtidam* i.e. nourishes all *Dhatu* starting from *Rasa* to *Shukra* and lastly to *Aartva*. Flavonoids and phytoestrogens present in *Ashvabala* show curative action against gynecological problems. Phytoestrogens show balancing effect of estrogenic activity which is helpful in both young females for menstrual problems and in old females for menopausal symptoms. They balance hormones, which helpful to cure hormone related cancer like breast cancer. The *Ashvabala* flavonoids act on the hypothalamus-pituitary-ovarian gonadal axis, which shows improvement in reproductive performance and reproductive organs. It balances hormones, enhance folliculogenesis and ovulation which cure infertility and prepare a womb for conception. As *Ashvabala* is a good source of Nutrients it maintains overall health as rejuvenating drug and overcome problems like Anaemia and Osteoporosis.

CONCLUSION

Ashvabala is valued for its medicinal properties both in modern and traditional medical systems. From all review it is clear that the *Ashvabala* has the potential to treat a wide variety of gynaecological problems. It not only treats the disease but supply good nutrition which is helpful to maintain health and immunity. Nevertheless, this study could be a new path for research work. Data are insufficient to determine its efficacy and safety. Therefore, further study is needed to assess efficacy and safety of *Ashvabala*.

REFERENCES

1. Asa Hershoff, A Quick and Easy Guide to Common Disorders and Their Herbal Remedies, Anemia-herbal Remedies, 05-Mar-2001 - Health & Fitness – 368
2. Contero, F. Abdo, S.; Vinueza, D.; Moreno, J.; Tuquinga, M.; Paca, N. Estrogenic Activity of Ethanolic Extracts from Leaves of *Ilex Guayusalo*. And *Medicago sativa* In *Rattus norvegicus*, Pharmacologyonline, 2015, vol.2,95-99
3. Dr. Bapalala Vaidya, Nighantu Aadarsh, Vol-I, reprint 2007, Chaukhamba Bharati Academy, Varanasi.
4. Dr. Bapalala Vaidya, Some Contraversial Drugs in Indian medicine, edition 3rd, 2010, Chaukhambha Orientalia, Varanasi, page no.247
5. Dr. Premavati Tiwari, Ayurvediya Prasutitantra Evam Striroga, Part II, reprint 2009, Chaukhambha Orientalia, Varanasi.
6. Duggal Jasjeet, Khatri Pankaj, Tiwari B.N, Patel Rakesh. Chemo-Pharmacological aspects of Alfalfa: A Review. J. Adv. Sci. Res,2011, 2(1); 50-53
7. Ethnopharmacological survey of medicinal plants used in the traditional treatment of female infertility in fez region morocco m. slighous, ismali Mahdi, f. ez-zahraamrati, s. boukhira, research gate, Phytothérapie DOI 10.3166/phyto-2019-0194
8. Fariba Nabatchian, Seyyed Majid HosseiniAghoosi, Alireza Mordadi, Fatemeh Khodaverdi, Evaluation of the effect of Alfalfa extract on breast cancer. J. Appl. Environ. Biol. Sci., 4(12S) 288-294, 2015
9. Hajer Jdidi, Fatma Ghorbel Koubaa, Nissaf Aoiadni, Aida Elleuch, Fatma Makni-Ayadi & Abdelfattah El Feki, Effect of *Medicago sativa* 17 β -oestradiol on osteoporosis in ovariectomized mice, The journal of Metabolic Diseases,20 march 2020, <https://doi.org/10.1080/13813455.2020.1741644>
10. Joanne Barnes, Linda A Anderson and J David Phillipson. Alfalfa monograph. Herbal medicine, Third edition. Page no 45.
11. Kundan Singh Bora & Anupam Sharma, Phytochemical and pharmacological potential of *Medicago sativa*: A review, (2011) Pharmaceutical Biology, 49:2, 211-220, DOI: 10.3109/13880209.2010.504732
12. Mohaisen H. Adaay, Saad S. Al-Dujaily, Ferial K. Khazzal. Effect of aqueous extract of *Medicago sativa* and *Salvia officinalis* mixture on hormonal, ovarian and uterine parameters in mature female mice. J. Mater. Environ. Sci. 4 (4) (2013) 424-433
13. Nazir Ahmad, Zia-Ur-Rahman, Nafees Akhtar, Shujait Ali, Maqbool Ahmad and Ijaz Ahmad. Effects of *Medicago sativa* on Some Serum Biochemical Metabolites in Rats. International journal of agriculture & biology. ISSN Print: 1560–8530; ISSN Online: 1814–9596 12–546/2013/15–2–297–300

14. P. L. Rajagopal, K. Premaletha and K. R. Sreejith, A comprehensive review on safe galactogogues, Vol 5, issue 8, 2016, DOI: 10.20959/wjpr20168-6868.
15. Priyanka Kantivan Goswami, Dr. Anubha Khale, Sunita Ogale. Natural Remedies for Polycystic Ovarian Syndrome (PCOS): A Review. Int. J.Pharm. Phytopharmacol.Res. 2012, 1(6): 396-402.
16. Prof. K. R. Srikantha Murthy, Sushruta Samhita, Vol II, reprint 2008, Chaukhamba Prakashan, Varanasi.
17. Prof. P. V. Sharma, Dhanvantari Nighantu, edition 1st 1982, Chaukhamba Prakashan, Varanasi
18. RaheleKargozar, Hoda Azizi and Roshanak Sala A review of effective herbal medicines in controlling menopausal symptoms, Electron Physician. 2017 Nov 25. doi: 10.19082/5826 PMID: 29403626
19. Roghayeh Javan, Behjat Javadi, and Zohre Feyzabadi. A Review of Its Physiology and Galactogogue Plants in View of Traditional Persian Medicine, Breastfeeding Medicine, Vol.12, Nov 7, 2017; doi: 10.1089/bfm.2017.0038
20. Sevil Bilir Goksugur, Zehra Karatas, Breastfeeding and galactogogues agents Acta Media Anatolia, vol-2, issue 3, 2014 ; doi: 10.15824/ actamedica.56572
21. The wealth of India, Raw material, Vol. VI: L-M, National institute of science communication and information resources, New Delhi, India. Reprinted 2009.p.n- 313
22. Theodore Cooke, The Flora Of the Presidency of Bombay, Vol-1, the secretary of state for India in council, 1903.page no. 307
23. V De Leo, D Lanzetta, R Cazzavacca, G Morgante Treatment of Neurovegetative Menopausal Symptoms With a Phytotherapeutic Agent,1998 May; 50(5):207-11.PMID: 9677811
24. Vd. Bhagvan dash, Charak Samhita by Dhridbala & exposition based on Chakrapanidatta's Ayurveda Dipika with critical notes, Reprint 2006, Choukhamba Sanskrit Series Office, Varanasi.
25. Vd. Yadavji Trikamji, Sushruta Samhita with Nibhandhsangraha commentary of Shri. Dalhanacharya, edition Reprint 2009, Chaukhamba Sanskrita Samsthana, Varanasi.
26. Very well health [Internet] 2020 , Cited on 24/07/2020, Available from <https://www.verywellhealth.com/health-benefits-of-alfalfa-4584280#citation-3>
27. WANG Wei, TIAN Miao-miao, LIANG Xin-ping, ZHAN Hong-ru, WANG Cheng-zhang, YAN Xue-bing. Effect of alfalfa flavonoids on reproductive performance of female rats in pregnancy and on gene expression in the hypothalamus-pituitary-ovarian gonadal axis. ActaprataculturaeSinica, 31, 2013. Vol.22. Issue6:249-256. DOI: 10.11686/cyxb20130631.
28. WesamKooti, KaroSarvtyari, MasoudBehzadifer, Majid AsadiSamani, FatemehSadeghi, BijanNouri, HadiZareMarzouni, Effective medicinal plants in Cancer treatment, Part 2, review Study, J. Evid Based Complementary Altern Med.2017, oct 22(4): 982 995, PMID-28359161.

How to cite this article: Dr. Rita Gaurav Mandle, Dr. Vivek Murlidhar Chaudhari. Ashvabala (Medicago sativa Linn.) Nari Aushadhi - A Review. J Ayurveda Integr Med Sci 2020;5:315-321.

Source of Support: Nil, **Conflict of Interest:** None declared.

Copyright © 2020 The Author(s); Published by Maharshi Charaka Ayurveda Organization, Vijayapur (Regd). This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.