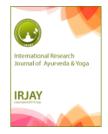


International Research Journal of Ayurveda & Yoga



An International Peer Reviewed Journal for Ayurveda & Yoga

SJIF Impact Factor : 5.69	ISRA Impact Factor : 1.318	ISSN:25	81-785X
Review Article		Volume: 3	Issue: 9

Chandraprabha Vati – A Formulation For Mootrakrichhra – A Literary Review

Dr.Varad Charkha¹, Dr.Shivani Sharma², Dr.Mohar Pal Meena³, Dr.Reetu Sharma⁴

- 1- P.G. Scholar, P.G. Department of Ras Shastra, NIA, Jaipur
- 2- P.G. Scholar, P.G. Department of Rog Nidana & Vikriti Vijnana, NIA, Jaipur
- 3- Associate Professor, P.G. Department of Ras Shastra, NIA, Jaipur
- 4- Assistant Professor, P.G. Department of Rog Nidana & Vikriti Vijnana, NIA, Jaipur

Abstract: *Mootrakrichhra* is a disease of *Mootravaha Srotas* and mentioned in all main *Ayurvedic* texts. *Mootrakricchra* is a *Tridoshaj Vyadhi* and its symptoms are compared with Urinary tract infections (UTI) in modern texts. Main symptoms of *Mootrakrichhra* are pain and difficulty in micturition. Various formulations have been mentioned in ayurvedic texts for the treatment of *Mootrakricchra*. One of those formulations is *Chandraprabha vati*. *Chandraprabha vati* is a herbo-mineral preparation having 37 drugs. Though the efficacy of *Chandraprabha vati* in the above-mentioned condition is observed practically, its mode of action is not clear. In this article we have attempted to throw a light on a probable mode of action of *Chandraprabha vati* in *Mootrakrichhra*. Ingredients of Chandraprabha vati possess properties such as *mutrala, deepana-pachana, tridoshaghna, sheeta virya and rasayana. Samprapti* (pathophysiology) of *Mootrakrichhra* can be broken down by these properties. Experimental studies have proven the antioxidant & antimicrobial action of *Chandraprabha vati*. Thus, it stands as a formulation of choice in treatment of *Mootrakricchra*.

Keywords:- Chandraprabha vati , Herbo-mineral , Micturition , Mootrakricchra

Article received on-3 Sept Article send to reviewer on-5 Sept Article send back to author on-19 Sept Article again received after correction on -24 Sept **Corresponding Author** : **Dr.Varad Charkha,** P.G. Scholar, P.G. Department of Ras Shastra, NIA, Jaipur, Email id <u>varadcharkha113@gmail.com</u>

How to Cite the Article : Dr.Varad Charkha, Dr.Shivani Sharma, Dr.Mohar Pal Meena, Dr.Reetu Sharma, *Chandraprabha Vati* – A Formulation For *Mootrakrichhra* – A Literary Review, IRJAY, September: 2020 Vol- 3, Issue-9; 328-344; Doi: <u>https://doi.org/10.47223/IRJAY.2020.3911</u>

INTRODUCTION:

Ayurveda, the Indian system of medicine, includes treatment using herbal or metallic herbo-metallic formulations. or Chandraprabha vati is a herbo-mineral formulation containing 37 ingredients of both herbal and mineral origin. It is being used in practice by Ayurveda physicians since centuries. Mootrakrichhra is one of the many indications of Chandraprabha *vati.* Mootrakrichhra¹ means disease in which there is difficulty in urination is called Mootrakrichhra. It is a disease of Mootravaha Srotasa. In Ayurveda texts, Mootrachhrichra is described by various Acharvas. In Trimarmiya Adhvava². Charaka described Acharya Mootrakrichhra. Acharya Kashyapa³ had also described the sign and symptoms of Mootrakricchra in Vedna Adhyaya. In

medicine. *Mootrakr*ichhra Modern symptoms are similar to that of urinary tract infection (UTI). Women are at greater risk of developing a UTI as compared to men due to shorter length of urethra, absence of secretions prostatic and pregnancy. Nowadays UTIs are the most common infections. About 40% of women and 12% of men experience symptomatic UTI at least once during their lifetime, and as many as 40% of affected women show recurrent UTI^{4,5,6,7}. Urinary tract infection is potentially a serious condition and may lead to complications like chronic pyelonephritis and chronic renal failure. There are effective antibiotics for UTI but they have their own limitations.

AIMS AND OBJECTIVE

To understand the mode of action of *Chandraprabha vati* in *Mootrakricchra*.

MATERIAL AND METHODS

Various Ayurvedic texts have been studied to gather all the relevant information for this article. Ayurvedic texts mainly used for this article are Charak Samhita. Sharangadhar Samhita, Madhav Nidan ,Kashaypa Samhita and Rasratna Samucchya. Information on Mootrakrichhra is also collected from various journals, magazines, research articles and internet

Review of Chandraprabha vati -

Chandraprabha vati is mentioned in *Sharangdhar Samhita Madhyama Khanda* 7/40-49⁸ and *Bhaishajya Ratnavali pramehachikitsa* 102-110⁹. Though 5 formulations are named as *Chandraprabha vati* in *Rasayogasagar*¹⁰, above mentioned references are most commonly used. It can be prescribed in *prameha*, *Mootrakrichhra*, *Ashamari*, *Mootraghata*, *Andavridhhi*, *Pandu*, *Kamala*, *Halimaka*, *Kasa*, *Shwasa*, *Kushtha*, *Agnimandya*, *Arochaka* and other diseases due *Vata*, *Pitta* & *Kapha*. It also acts as *Balva*, *Vrishya and Rasayana*.¹¹

The name Chandraprabha suggests the raised glow on skin after long consumption formulation. The of the term *Chandraprabha* is also said to be generated due to the fact that it represents the 1st ingredient of the formulation. There is difference in opinion of experts about the Chandraprabha. Though it drug is generally considered to stand for Karpura (Cinnamomum camphora), some experts consider it to be Shathi (Hemidesmus Shatavari (Asparagus indicus) or considers racemosus).¹² AFI Chandraprabha as Karpura.

TABLE NO. 1 - Ingredients of Chandraprabha vati¹³

Sr.No.	Name of ingredient	Scientific name	Quantity
1	Chandraprabha (karpura)	Cinnamomum camphora	3 g
2	Vacha	Acorus calamus	3 g
3	Musta	Cyperus rotundus	3 g
4	Bhunimba (kiratatikta)	Swertia chirayta	3 g
5	Amruta (guduchi)	Tinospora cordifolia	3 g
6	Daruka (devadaru)	Cedrus deodara	3 g
7	Harid <mark>ra</mark>	Curcuma longa	3 g
8	Ativisha	Aconitum heterophyllum	3 g
9	Darvi	Berberis aristata	3 g
10	Pippalimula	Piper longum	3 g
11	Chitraka	Plumbago zeylanica	3 g
12	Dhanyaka	Coriandrum sativum	3 g
13	Haritaki	Terminalia chebula	3 g
14	Bhibhitaka ang ang ang ang ang ang ang ang ang an	Terminalia bellirica	3 g
15	Amalaki	Emblica officinalis	3 g
16	Chavya	Piper retrofractum	3 g
17	Vidanga	Embelia ribes	3 g
18	Gajapippali	Scindapsus officinalis	3 g

19	Sunthi	Zingiber officinalis	3 g
20	Maricha	Piper nigrum	3 g
21	Pippali	Piper longum	3 g
22	Swarnamakshika bhasma	Calcined Copper pyrite	3 g
23	Yava kshara	Dried water-soluble ash of barley	3 g
24	Sarji kshara	Impure sodium bicarbonate	3 g
25	Saindhava lavana	Rock salt / Indian rock salt	3 g
26	Sauvarchala lavana	Black Salt/Sodium sulphate mixed with sodium chloride	3 g
27	Vida lavana	Ammonium chloride	3 g
28	Trivrut	Operculina turpethum	12 g
29	Danti	Baliospermum monatum	12 g
30	Patraka (tejapatra)	Cinnamomum tamala	12 g
31	Tvak	Cinnamomum verum	12 g
32	Ela	Elletaria cardamomum	12 g
33	Vamshalochana	Bambusa arundinacea	12 g
34	Lauha bhasma	Calcined iron	24 g
35	Sita	Crystal sugar	48 g
36	Shilajatu	Black bitumen	96 g
37	Guggulu	Commiphora wightii	96 g

Review of Mootrakrichhra -

Mootrakrichhra is a Tridoshaj Vyadhi14.Its etiological factors are-

Nidana:

There are many *nidana* of *mootrakrichhra* explained by *Acharyas* in different *Ayurvedic* texts as mentioned in Table no. 2.

Aharaja Nidana	Viharaja Nidana	Partantra Nidana
1. Adhyashana ¹⁵	1. Yana gamana	1. Kaphaja arsha ¹⁶
2. Ajirna ¹⁷	2. Ativyayama	2. Ajirna ¹⁸
3. Ruksha anna sevana	3. Aghata	3. Vasti vidradhi ¹⁹
4. Tikshna aushadha sevana ²⁰	4. Atinritya	4. Udavarta ²¹
5. Ruksha madya sevana ²²	5.Gorvarna stri sevana ²³	5. Gulma ²⁴
6.Anoopa Matasya	6.Avyayama	
7.Katu, amla, lavana rasa ati sevana ²⁵	7.Shrama ²⁶	1.5
8.Usna <mark>mad</mark> yapana ²⁷	8. Sheetal jal sevana	181
9.Pitta prakopak dravya ²⁸	9.Vegavarodh	
10.Ati Bhojan	10.Nityaprasang	Y / 1
	11.Druta prishtha yana	

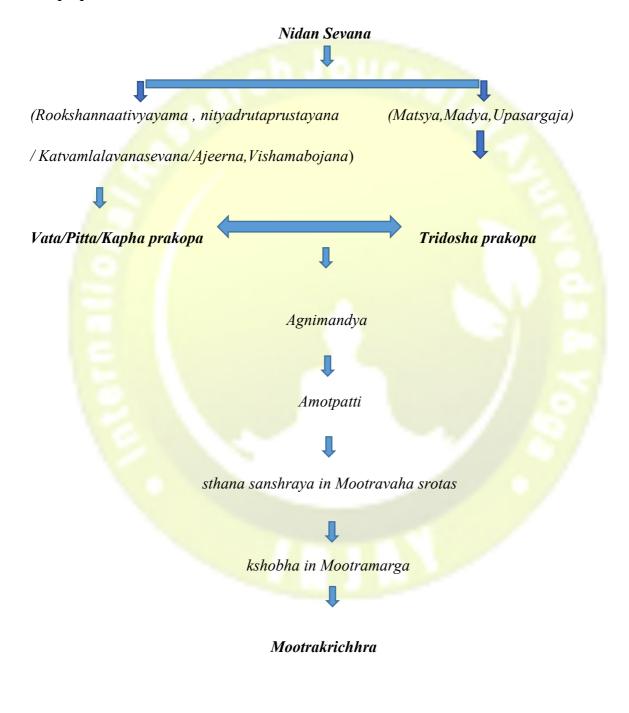
TABLE	NO. 2.	Nidana	of Mootrakrichhra
	110. 4.	1 vanna	oj moon ann ichnin a

Types:

Acharyas have described 8 types of Mootrakrichhra except acharya Vagbhata as he mentioned only Doshaj Mootrakrichhra.

Roopa: There are 8 types of *mootrakrichhra* and their symptoms are explained by *Acharyas* in various classic *Ayurvedic* texts. Increased frequency, Hesitancy and dysuria are the main clinical features of *mootrakrichhra*.

Samprapti²⁹



DISSCUSSION

Mootrakriccha is a tridoshaj vyadhi and chandraprabha vati is a tridoshahara, and mutrala rasayana drug. Chandraprabha vati is a combination of 37 drugs which acts on tridosha and helps in breaking down pathophysiology of mootrakricchra. Properties of these drugs and their probable role is discussed in table no.3. Shilajatu and Guggulu are the main constituents of CPV. Guggulu is considered as one of the best drugs for reducing aggravated *vata* along with diuretic nature. As *Mootrakrichhra* is also a *Tridoshaj vyadhi* having main symptoms as pain i.e. krichhrta, so it helps in balancing vitiated vata and reducing these symptoms. Shilajatu is a rasayana which helps in maintaining the normal functioning. Most of the drugs in CPV are Tridoshhar and Mutrala in nature and directly act on the mootravaha srotas, Hence they help in relieving the symptoms of *Mootrakrichhra*. Drugs like chandraprabha (Karpura), Chitraka, Mustaka etc. possess Deepanapachana properties which help in increasing appetite and eliminating Ama from the body and relieving symptoms by acting on the pathogenesis and doing samprapti vighatana. Drugs such as Haridra, Vacha. Devdaru, Trikatu

,Gajpippali have antimicrobial properties that help in eliminating any microbial infection. *Vida lavana* acts as *vatanulomaka* and *shoolanashaka which* helps in reducing the symptoms of *mootrakricchra*.

Mode of action of *chandraprabha vati* on *mootrakrichhra*-

Chandraprabha vati is indicated for all Mootrakrichhra³⁰. of The types formulation *Chandraprabha* Vati as a combination of many drugs is rasayana, tridoshaghna, mutrala with deepanapachana and sheeta veerva properties³¹. Owing to these properties, it helps in regulation of the agni and elimination of Thus, it overcomes the basic ama. pathogenesis of Mootrakrichhra. Other major ingredients possess properties such sheeta veerva,³² agnideepana,³³ as vatahara,³⁴ and rasayana.³⁵ This helps get the better of the *pittaja lakshana* which are observed in all types of Mootrakrichhra.

TABLE NO.3: Role of individual drugs

Chandraprabha	It helps in balancing all the doshas. Its Tikta rasa subsides kapha,
(Karpura)	Madhura rasa subsides Vata and its sheeta virya subsides pitta dosha.
	It stimulates kidneys and help in proper micturition. ³⁶
Vacha	Due to ushna and tikshna property of vacha it helps in proper
	formation of urine. It also acts as an anodyne (Drug used to lessen
	pain through reducing sensitivity of the nervous system) ³⁷ .
Musta	It is a natural diuretic hence useful in the treatment of
	<i>Mootrakrichhra</i> ³⁸ . Used as a tonic.
Kirattikta	It is a tridosha shamak drug. Tikta rasa subsidses kapha-pitta dosha
e e	and <i>ushna virya</i> subsides <i>vatakapha dosha³⁹</i> .
Guduchi	It is a <i>Rasayana,Balya</i> and <i>Tridoshashamak auosadhi</i> . ⁴⁰
Daruka	Due to its <i>snigdha</i> and <i>usna</i> property it balances the vitiated <i>vata</i>
(Devadar <mark>u)</mark>	dosha hence an effective anodyne drug. Its snigdha and usna
	properties help in the proper formation of urine and an effective drug
	in mootrakrichha. ⁴¹
Haridra	Due to usna virya it subsides vata and kapha dosha and due to Tikhta
	rasa it vitiates pitta dosha 42
Ativisha	It is a <i>tridoshshammak</i> ⁴³ drug.
Pippalimula	due to its <i>snigdha guna</i> it balances the vitiated <i>vata dosha</i> and it is
	madhura in vipaka so it acts as a diuretic.
Chitraka	usna and tikshna-vata dosh shamak

Dhanayak	-It is a <i>tridoshhar</i> drug and used in Mootrakrichhra ⁴⁴
Haritaki	<i>Rasayana,tridoshhar</i> mainly <i>vata shamak</i> ,diuretic ⁴⁵ .
Bhibhitaka	Tridoshhar ⁴⁶ , Vednasthapana
Amalaki	Tridoshhar, Diuretic, Rasayana, used in Mootrakrichhra47.
Chavya	It has similar action like that of <i>Pippali</i> and <i>Gajapippali</i> owing to their similarity in chemical composition. ⁴⁸
Vidanga	Best in the <i>krimighna</i> drugs. ⁴⁹ Useful in UTI.
Gajapippali	<i>Chavika phala</i> is known as <i>Gajapippali</i> . It is <i>krimighna</i> in action. ⁵⁰
Trikatu	Acts as bio-enhancer in CPV. Itself possesses antibacterial property. Thus, it is beneficial in UTI.
Yavaksha <mark>ra</mark>	Reduces pain and difficulty in micturition. ⁵¹
Sajjiksh <mark>ar</mark> a	It possesses <i>ushna</i> and <i>katu</i> property and thus acts as <i>krimighna</i> . ⁵²
Saindh <mark>ava lavana</mark>	Vibandaghna and tridoshajeet ⁵³
Sauvar <mark>ch</mark> ala lavana	<i>Laghu, ushna & vishada</i> property containing <i>sauvarchala lavana</i> acts as <i>vibandaghna</i> . ⁵⁴
Vida lavana	Due to its <i>teekshna</i> , ushna & deepana property, vida lavana acts as vatanulomaka and shoolanashaka. ⁵⁵
Trivit	Roots of <i>Trivrit</i> are said to the best among all purgatives. ⁵⁶ It removes alleviated <i>tridosha</i> from urinary tract.
Danti	Ashukari and vikasi, ⁵⁷ ashmarighna
Tvak and Patra	Being <i>ushna</i> and <i>teekshna</i> , <i>tvak</i> stimulates kidneys and acts as diuretic. ⁵⁸
Ela	<i>Ela</i> has mentioned to be useful in <i>mutrakricchra</i> by many texts. ⁵⁹
Vanshalochana	It is <i>Kashaya madhura, madhura vipaka</i> and <i>sheeta virya</i> . It acts as diuretic and helps curing <i>baddhamutrata</i> (retention of urine). ⁶⁰
Loha	Acts as rasayana as well as jantughna.

Sita	It is <i>sheeta</i> , <i>snigdha</i> and <i>madhura</i> in property. This helps in reducing unbalanced <i>vata</i> and <i>pitta dosha</i> in urinary tract.
Guggulu	Guggulu being ushna acts on vata. It is one of the best remedy for alleviated vata. Teekshna property of guggulu enhances its mootrala property. ⁶¹

In previous studies on CPV, it is clearly mentioned that CPV is a potential source of antioxidants and antimicrobial agent that can be effectively used to remove the invading and persisting bacterial population in the bladder and kidney⁶². The external supplementation of zinc, as in CPV, not only restores the depleted zinc pools in the body fluids, but also acts as a cytotoxic agent to the bacteria⁶³. A case report of 25 years old female patient showed reduction in signs and symptoms as well as bacterial growth, nitrites, leucocyte esterase, cast in urine. CPV was administered 100mg 2BD along with Brihatyadi ksheerkashayam (50 ml BD) and Shweta parpati (500mg with 1 litre of water in ten divided doses)⁶⁴. So, this review study and previous studies clearly shows CPV as an effective drug for

Mootrakrichhra.

CONCLUSION

Chandraprabha vati is a commonly used drug in *Mootrakrichhra* and it helps in reducing the symptoms as well as maintain the proper functioning of kidneys. This drug is very effective in *Mootrakrichhra* due to various properties such as antimicrobial agent and acting directly as a diuretic.

Acknowledgement:- Nil Financial Assistant:- Nil Conflict of interest :- Nil

REFERENCES

- Vijay rakshit and shri kantha dutt Madhavkar ;Madhav Nidan; Madhukosha Sanskrit commentary, hindi commentary by Narendra Nath. Shastri, Motilal Banarasidas, Delhi, edition 2005,Ma.Ni.30/1-2,Page no.205
- 2. Yadavaji Trikamaji ,Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary Varanasi, Chaukhambha Orientalia;2015, ,Chikista Sthana ,chapter 26,Page no.599
- 3. Pandit Hemraj Sharma, Kashypa Samhita, Vidyotini Commentary, Ka.su.25/21 Chaukhambha Sanskrit Sansthan, Delhi ,Reprint: 2013,Page no. 34
- 4. Foxman B. The epidemiology of urinary tract infection.Nat Rev Urol 2010;7:653-60
- Ikäheimo R, Siitonen A, Heiskanen T, Kärkkäinen U, Kuosmanen P, Lipponen P, *et al.* Recurrence of urinary tract infection in a primary care setting: Analysis of a 1-year follow-up of 179 women. Clin Infect Dis 1996;22:91-9. Stamm WE, McKevitt M, Roberts PL, White NJ. Natural history of recurrent urinary tract infections in women. Rev Infect Dis 1991;13:77-84.
- 6. Kunin CM. Urinary tract infections in females. Clin Infect Dis 1994;18:1-10.
- Pandit Sarangdharacharya, Sharangdhar Samhita, Sanskrit Commentary Dipika by Adhamalla, Madhyam Khanda, 7/40-49, Chaukhamba Orientalia, Varanasi, India, Reprint 2018, Page 200
- 8. Kaviraj Shri Ambikadatta Shastri, Bhaishajya Ratnavali, Prameha Chikitsa/102-110, Chaukhamba Prakashan, Varanasi, Reprint 2018, Page no. 730
- 9. Vaidya Pandit Hariprapanna Sharma, Rasayogasagar, Part 1, 51-55, Choukhamba Krishnadas Academy, Varanasi, Reprint 2010, Page no.424
- 10. Kaviraj Shri Ambikadatta Shastri, Bhaishajya Ratnavali, Prameha Chikitsa/102-110, Chaukhamba Prakashan, Varanasi, Reprint 2018, Page no. 730
- Pandit Sarangdharacharya, Sharangdhar Samhita, Sanskrit Commentary Dipika by Adhamalla, Madhyam Khanda, 7/40-49, Chaukhamba Orientalia, Varanasi, India, Reprint 2018, Page 201
- Ayurvedic Formulary of India, Part-1, 12:10, 2nd edition, 2003, Government of India, Delhi

- Yadavaji Trikamaji, Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, Varanasi, Chaukhambha Orientalia; 2015: Chikista Sthana ,chapter 26/33Page no.599
- 14. Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, Varanasi, Chaukhambha Orientalia; 2015, by, Chikista Sthana ,chapter 26/32Page no.599
- 15. Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, Varanasi, Chaukhambha Orientalia; 2015, by, Chikista Sthana , chapter 26/32Page no.599
- Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary by, Chikista Sthana ,chapter 14/17, Varanasi, Chaukhambha Orientalia;2015, Page no.503
- 17. Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, Varanasi, Chaukhambha Orientalia; 2015 Chikista Sthana , chapter 26/32, Page no. 599
- Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary Varanasi, Chaukhambha Orientalia;2015, Chikista Sthana ,chapter 15/49, Page no.517
- 19. Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, Varanasi, Chaukhambha Orientalia; 2015, sutra Sthana, chapter 17/101Page no.104
- 20. Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary Varanasi, Chaukhambha Orientalia;2015, Chikista Sthana ,chapter 26/32, Page no.599
- 21. Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, ,Varanasi, Chaukhambha Orientalia;2015, Page no.597
- 22. Yadavaji Trikamaji, Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary Varanasi, Chaukhambha Orientalia; 2015, Chikista Sthana , chapter 26/32, Chikista Sthana , chapter 26/8Page no.599

- Harihar prasad Tripathi ,Harita Samhita,Treetiya sthan 39/5-7 Chaukhambha Krishandas academy Varanasi,India,2nd Edition:2009,Page no. 392
- Yadavaji Trikamaji Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, ,Chaukhambha Orientalia;2015, Chikista Sthana ,chapter 5,Varanasi Page no.435
- 25. Harihar prasad Tripathi ,Harita Samhita,Treetiya sthan 39/5-7 Chaukhambha Krishandas academy Varanasi,India,2nd Edition:2009,Page no. 392
- 26. Harihar prasad Tripathi ,Harita Samhita,Treetiya sthan 39/5-7 Chaukhambha Krishandas academy Varanasi,India,2nd Edition:2009,Page no. 392
- 27. Harihar prasad Tripathi ,Harita Samhita,Treetiya sthan 39/5-7 Chaukhambha Krishandas academy Varanasi,India,2nd Edition:2009,Page no. 392
- Harihar prasad Tripathi ,Harita Samhita,Treetiya sthan 39/5-7 Chaukhambha Krishandas academy Varanasi,India,2nd Edition:2009,Page no. 392
- 29. Yadavaji Trikamaji, Charaka, Charak Samhita, Chakrapanidatta's Ayuredadipika Sanskrit commentary, Varanasi, Chaukhambha Orientalia;2015: Chikista Sthana ,chapter 26/33Page no.599
- 30. Prof K.R srikantha murthy Sarangadhara Samhita of sarangadharacharya Ayurveda vidwan. Choukambha Orientalia madhyama khanda 7thchapter, vatikalpana 45th sloka pg no. 105.
- sri Arumanoor parameswaran and Dr.K.V.Ramankutty varrier and edited by Dr.K.Murali Yogamanjari part 1st Ashtavaidyan P.T.N Vasudevan moos page number 103 to 106.
- 32. Rasaratna samuchchaya translated by Ashok D. Sajpute published by. chaukhamba Sanskrit pratishthan. 108sloka Page number 41.
- 33. Dr. J.L.N. Sastry foreward by K.C chunekaDravya guna vijnana, study of Essential medicinal plants in Ayurveda. published by choukambha orientalia Varanasi. Page number 119.
- Ashok. D. Sajpute Rasaratna samuchchaya published by. chaukhamba Sanskrit pratishthan., 32 sloka Page number 136.

- 35. Ashok. D. Sajpute Rasaratna samuchchaya published by. chaukhamba Sanskrit pratishthan. 76sloka Page number 33.)
- Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no. 198
- Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi, 2012 page no.28
- Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no.372
- 39. Prof. Krishnachandra Chunekar, Bhava Prakash, Haritakyadi Varga/155, Chuakhamba Bharti Academy, Varanasi, India, Reprint 2013, Page no. 20
- 40. Prof. Krishnachandra Chunekar, Bhava Prakash, Guduchyadi Varga/9, Chuakhamba Bharti Academy, Varanasi, India, Reprint 2013, Page no. 257
- 41. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no.76
- 42. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no.163
- 43. Prof. Krishnachandra Chunekar, Bhava Prakash, Haritakyadi Varga/214, Chuakhamba Bharti Academy, Varanasi, India, Reprint 2013,Page no.122
- 44. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no.324
- 45. Prof. Krishnachandra Chunekar, Bhava Prakash, Haritakyadi Varga/22, Chuakhamba Bharti Academy, Varanasi, India, Reprint 2013,Page no.5
- 46. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no 239
- 47. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no 760
- Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi, 2012 page no.336
- 49. Acharya Vidyadhar Shukla and Prof. Ravidatta Tripathi, Charak Samhita, Sutra Sthana, 25/40, Chaukhamba Sanskrit Pratishthan, Delhi, India, Reprint 2006, Page no. 338

- 50. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no 289
- Acharya PV Sharma, Dhanwantari Nighantu, Shatapushpadi/18, Chaukhamba Orientalia, Varanasi, India, Reprint 2008, Page no. 73
- Acharya PV Sharma, Dhanwantari Nighantu, Shatapushpadi/21, Chaukhamba Orientalia, Varanasi, India, Reprint 2008, Page no. 73
- 53. Acharya PV Sharma, Dhanwantari Nighantu, Shatapushpadi/27, Chaukhamba Orientalia, Varanasi, India, Reprint 2008, Page no. 74
- 54. Anantaram Sharma, Sushruta Samhita, Sutra Sthana, 46/317, Chaukhamba Surbharati Prakashan, Delhi, India, Reprint 2013, Page 425
- 55. Acharya Vidyadhar Shukla and Prof. Ravidatta Tripathi, Charak Samhita, Sutra Sthana, 27/302, Chaukhamba Sanskrit Pratishthan, Delhi, India, Reprint 2006, Page no. 419
- 56. Acharya Vidyadhar Shukla and Prof. Ravidatta Tripathi, Marathi translation by Vaidya Vijay Shankar Kale, Charak Samhita, Kalpa Sthana, 7/3, Chaukhamba Sanskrit Pratishthan, Delhi, India, Print 2014, Page no. 816
- 57. Acharya Vidyadhar Shukla and Prof. Ravidatta Tripathi, Marathi translation by Vaidya Vijay Shankar Kale, Charak Samhita, Kalpa Sthana, 12/6, Chaukhamba Sanskrit Pratishthan, Delhi, India, Print 2014, Page no. 839
- 58. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no 251
- 59. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no 721
- 60. Prof. Krishnachandra Chunekar, Bhava Prakash, Haritakyadi Varga/118, Chuakhamba Bharti Academy, Varanasi, India, Reprint 2013, Page no.56
- 61. Prof. P.V. Sharma, Dravyaguna-vijnana Vol.2 chaukhamba bharti academy Varanasi,2012 page no 55
- 62. (Suneeva S Christa,1 Adaveni Swetha,1 Evangeline Christina,1 Rajesh N Ganesh,2 Pragasam Viswanathan1, Modulatory Effect of Chandraprabha Vati on Antimicrobial Peptides and Inflammatory Markers in Kidneys of Mice With Urinary Tract Infection, Iranian Journal of Kidney Diseases|Volume 7|Number 5|September 2013)

- 63. (Magneson GR, Puvathingal JM, Ray WJ, Jr. The concentrations of free Mg2+ and free Zn2+ in equine blood plasma. J Biol Chem. 1987;262:11140-8.)
- 64. (Anjana S, Devipriya S, Mahesh CK, James C. Reduction of Bacterial growth in Urine after an Ayurvedic treatment protocol: A case report. J Ayu Herb Med 2018;4(4):147-149)

