



GREENTREE GROUP PUBLISHERS

IJAPC

Volume 10 Issue 3

10 May 2019

WWW.IJAPC.COM
E ISSN 2350 0204



A Conceptual Review on Dosage of *Rasayana* Formulations

Amrutha D P^{1*}, Govinda Sharma K² and Gazala Hussain³

¹⁻³Department of Rasashastra and Bhaishajya Kalpana, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India

ABSTRACT

Rasayana drugs are found from single drug therapy to compound formulations. Number of formulations, may be primary or secondary are portrayed to possess *Rasayana* effect. The dose of many of these *Rasayana* drugs were not specified along with the *Phalasruti*. So as per general rule the dose specified for the dosage form have to be considered. Meanwhile it is pertinent to note that these formulations were indicated in certain diseases as curative apart from the *Rasayana* action. Whether the action as *Rasayana* and action as *Vyadhihara* is attained with similar dose is the question which was key in this work. A thorough literature search was carried out to collect *Rasayana* drugs from single drug to compound formulations from different *Samhita* and other books of *Ayurveda*. Further an attempt was made to understand the relation on mode of administration, dose of *Rasayana* and its action on the body. It was observed that the dose of certain drugs used as *Rasayana* were higher from the general dosage, like in case of *Shilajatu rasayana*. Or an increasing order of dose along with specified duration was noted in the administration of *Jyotishmati taila*, *Vardhamana pippali/bhallathaka*, *Parpati kalpa*, etc. These instances suggests that the dose of the *Rasayana yogas* need to be validated rather than considering the dose mentioned for these *yogas* as per the *kalpana*.

KEYWORDS

Rasayana, Matra, Rasayana yoga, Dose



Greentree Group Publishers

[Received 20/03/19](#) [Accepted 09/04/19](#) [Published 10/05/19](#)



INTRODUCTION

Ayurveda therapeutics aims at both curative and preventive aspect of the diseases or disorders. Ancient scholars have advised to follow *Dinacharya*, *Ritucharya* and other regimens to stay healthy and attain longevity. *Rasayana* are also the means with which the immunity and strength of the individual can be maintained. There are numerous *rasayana* that have been specified, derived from single drugs as well as compound formulations. *Rasayana chikitsa* is given much importance by including it under *Ashtanga* (eight branches) of *Ayurveda*¹.

Rasayana has a multidimensional effect on human body. Important benefits of *rasayana* that have been highlighted by ancient scholars includes improving memory, intelligence, lustre, complexion, voice, freedom from disease, optimum strength of body and senses, etc. along with increasing the longevity².

Use of *rasayana* can be found from single drug therapy to compound formulations. Number of formulations, may be primary or secondary are also portrayed to possess *rasayana* effect. Formulations of metal and mineral origin like *Bhasma*, *Pishti*, *Parpati*, *Pottali*, *Koopipakva*, etc. are always tagged with a suffix *rasayana*. However, the *matra* (dose) with which the

formulations are used in therapeutics is the key to the attainment of expected or desired efficacy. The *aushadha* (medicine) when taken in proper quantity produces good results, and it does not cause any undesired results³. Hence the dose with which any medicine is administered should neither be *heena matra* (less dose) nor be *ati matra* (over dose) as it either won't be able to produce the desired effect or it may harm the health of the person.

MATERIALS AND METHODS

A thorough literature search was done to collect *rasayana yogas* in different *samhita* and other books of *Ayurveda*. The words like *Rasayana*, *Ayushya*, *Deerghayu*, *Shatayu*, *Sarvarogaghna* and others with similar meaning have been included in the search. In the first step only single drugs were enlisted which have been specified to possess *rasayana* effect. In the second step formulations of herbal, herbomineral and mineral origin with any one of above words in *phalashruti* were included. Further an attempt was made to understand the relation on mode of administration, dose of *rasayana* and its action on the body.

OBSERVATION AND RESULTS:

The list of drugs and formulations are categorized into the following subgroups for ease of understanding.



I. Single drugs which possess *rasayana* effect:⁴

Aswagandha (*Withania somnifera*), *Amalaki* (*Embllica officinalis*), *Brahmi* (*Bacopa monnieri*), *Haritaki* (*Terminalia chebula*), *Palandu* (*Allium cepa*), *Lashuna* (*Allium sativum*), *Vacha* (*Acorus calamus*), *Bhringaraja* (*Eclipta alba*), *Bhallataka* (*Semicarpus anacardium*), *Palasha* (*Butea monosperma*), *Tila* (*Sesamum indicum*), *Gokshura* (*Tribulus terrestris*), *Agaru* (*Aqualaria agollacha*), *Bhanga* (*Cannabis sativa*), *Vidarikanda* (*Pureria tuberosa*), *Musali* (*Asparagus adseendens*), *Guduchi* (*Tinospora cordifolia*), *Jyotishmati* (*Celestrus paniculatus*), *Shankhapushpi* (*Convolvulus pluricaulis*), *Kushmanda* (*Benincasa cerifera*), *Shatavari* (*Asparagus racemosus*), *Vatsanabha* (*Aconitum ferox*),

Bakuchi (*psoralea corylifolia*), *Punarnava* (*Boerhavia diffusa*), *Nagabala* (*Sida veronicaefolia*), *Chitraka* (*Plumbago zeylanica*), *Khadira* (*Acacia catechu*), *Kakamachi* (*Solanum nigrum*), *Bilwa* (*Aegel marmelos*), *Vridhdadaruka* (*Argyreia speciosa*), *Mandukaparni* (*Centella asiatica*), *Yashtimadhu* (*Glycyrrhiza glabra*), *Kumudda* (*Nymphaea alba*), *Saariva* (*Hemedismus indicus*), *Mudgaparni* (*Phaseolus trilobus*), *Murva* (*Marsdenia tenacissima*), *Mashaparni* (*Teramnus labialis*), *Bala* (*Sida cardifolia*), *Pippali* (*Piper longum*), *Tuvaraka* (*Hydnocarpus wightiana*), *Kashmarya* (*Gmelina arborea*), *Dadima* (*Punica granatum*), *Draksha* (*Vitis vinifera*) and *Guggulu* (*Commiphora mukul*).

II. Formulations of varied dosage forms with *Rasayana* action

Dosage form	Examples
<i>Swarasa</i>	<i>Bringaraja rasayana, Mandukaparni swarasa</i>
<i>Kalka</i>	<i>Punarnava rasayana, Nagabala kalka</i>
<i>Churna</i>	<i>Ashwagandha Rasayana, Yashtimadhu Churna, Swadamshtredi Churna, Vacha Rasayana, Vidangadi Churna, Pippali Rasayana, Bhringarajadi Churna, Varahi Churna, Shatavaryadi Churna, Maha Nimbadi Churna, Narasimha Churna, Kachuradi Churna</i>
<i>Leha</i>	<i>Agasthya Haritaki Rasayana, Vasishtha Haritaki Rasayana, Kushmanda Rasayana, Chyavanaprasha, Ashwagandhaadi Leha, Abhayamalaka Avaleha</i>
<i>Vati</i>	<i>Langalyadi Gutika, Shiva Gutika, Pippalyadi Rasayana Vati, Lashunadi Vati, Gandhaka Vati, Manasa Mitra Vati, Mrita Sanjivani Vati</i>
<i>Guggulu</i>	<i>Yogaraja Guggulu, Kaishora Guggulu, Loha Guggulu, Gokshuradi Guggulu, Maha yogaraja Guggulu</i>
<i>Ghrta</i>	<i>Narasimha Ghrta, Saraswata Ghrta, Brahmadi Ghrta, Vachadi Ghrta, Pancharavinda Ghrta, Chatushkuvalaya Ghrta, Lashuna Ghrta, Guduchyadi Ghrta, Kalyanaka Ghrta, Brahmi Ghrta, Shatavari Rasayana</i>
<i>Asavarishta</i>	<i>Kumaryasava. Dashamoolasava, Saraswataarishta, Aswagandhaarishta.</i>
<i>Rasoushadhi</i>	<i>Parada, Shilajatu, Suvarna Bhasma, Loha Bhasma, Vanga Bhasma, Navaratna Bhasma, Roupya, Godanti Bhasma, Gandhaka, Gandhaka Rasayana, Arogya Vardhini Rasa, Smritisagara Rasa, Dhatupushti Louha, Swarna Parpati, Panchamrita Parpati, Suvarnabhupati Rasa, Ashtamurthi Rasa, Suvarnamalini Vasantha, Abhraka, Panchamrita Loha Mandura, Siddha Makaradhwaaja, Vasantha Kusumakara Loha Bhasmadi Rasayana</i>



III. Dose of *rasayana* explained in *phalasaruthi*:

Churna kalpa: No dose is specified for many of the *churna yogas* such as *Varahi churna*^{5,6}, *Ashwagandha rasayana*,⁷ *Yashtimadhu churna*⁷ and *Bhringarajadi churna*⁸, etc. whereas the dose of *Haridra churna*⁹ is documented as half *pala* (24 gms).

Vati / gutika kalpa: Dose is mentioned for formulations like *Gandhakavati*¹⁰ (*badara pramana matra*, approx-500mg), *Manasa mitra vati*¹¹ (*bhunimba phala pramana*) and *Shiva gutika*¹² (*Aksha pramana*). At the same time no particular dose was mentioned for formulations like *Lashunadi vati*.

Guggulu rasayana: In the *phalasaruthi* of *Yogaraja guggulu*,¹³ it is told that “*ato matram prayunjeeta yatheshtahara vaanapi*”, dose should be decided without interfering the daily meals. i.e., no particular dose or method of administration is mentioned for it and 1 *shaana matra* (3g) is the dose told for *Yogaraja guggulu* explained in *Sharangadhara samhita*¹⁴. Whereas for *Kaishora guggulu*¹⁵ one *shaana matra* (3g) is mentioned particularly.

Avaleha kalpa: *Abhayamalakavaleha* does not have a specific dose being mentioned;¹⁶ dose of *Agasthya haritaki rasayana* is mentioned as 2 *abhaya pramana*¹⁷. In the

phalasaruthi of *Chyavana prasha*^{18, 19} the dose with which the medicine is administered should be in a dose which does not interfere the daily meals i.e., “*yoparudhyanna bhojana*”. Similarly in *Brahma rasayana*²⁰ “*noparundhyaadaahaaramekam matra*” is mentioned. In the context of *kushmanda rasayana*²¹ dose is mentioned as *pala matra* i.e., one *pala* dosage (48g).

Ghrita kalpa: No specific dose is mentioned for *ghrita kalpa* like *Narasimha ghrita*,²² *Saraswatha ghrita*²³ and *Brahmi ghrita*²⁴.

Taila kalpa: External uses like *abhyanga, nasya* – according to necessity the *matra* is decided, for example *Narasimha taila*²⁵, *Balashvagandha taila*, *Bhringaraja taila*, etc. Whereas, for *taila kalpa* which is used internally like *Tuvaraka taila*²⁶ *matra* is mentioned as 1 *karsha* (12 gms).

Asava, arishta kalpa: Particular dose is not mentioned for *arishta* like *Dashamularishta*²⁷. *Palaardha matra* (½ *pala* dose) is told for *Ashvagandharishta*²⁸ and *shaana matra* (3gms) is mentioned for *Sarasvatarishta*²⁹.

Parpati kalpa: *Kalpa prayoga* with 1 *ratti* increase dose is mentioned for *suvarna parpati*³⁰ and 2 *ratti* increased dose is mentioned for *Panchamrita parpati*³¹.

Bhasma kalpa: like *Loha bhasma*³² should be used in a dose of 1 *gunja pramana*



(125mg), *Suvarna bhasma*³³ dose in 1/8 – ¼ *ratti* (15-30mg) and *Tamra bhasma*³⁴ - ¼- ½ *ratti* (30-60mg).

Rasayogas: like *Yogendra rasa*³⁵ dose is mentioned as 2 *ratti* (250mg) and dose of *Rasaraja* is 5 *gunja* / 5 *ratti* (625mg) and *Vasantha kusumakara rasa*³⁶ is 2 *gunja* / 2 *ratti*.

IV. *Rasayana prayoga* and dose:

A. “**Vardhamana Krama**” is a special thinking of *Acharya* to advise the drugs action in excessive dose and to make the biological platform ready to assimilate the greater dose of the same drug gradually. Here the drug is administered starting with a particular dose with daily increase of a uniform dose till reaching a predefined higher dose. Then reducing the dose daily and bringing back to the started dose to avoid the dependency or withdrawal effects. The gradual increase of dose may reach the deeper tissues in due course of time. Example: *Vardhamana pipalli*, *vardhamana bhallathaka rasayana*, etc.

Pippali vardhamana rasayana^{37, 38}: For 10 days daily increase 10 *pippali* gradually along with *goksheera* and again reduce 10 *pippali* gradually use for 10 days. This is continued till it becomes 1000 *pippali prayoga* and becomes *rasayana*. Dose of the *pippali* for administration also depends on the *bala* of the person. A person with *heena bala* (less strength) won't be able to

tolerate the higher dose of the drug administered. Initial administration or the starting dose with the administration of 10 *pippali* is considered as *uttama* (best) *matra* and can be considered for a person with good strength. Administration of 6 *pippali* as *madhyama* (medium) *matra* and for person with medium strength, whereas administration of 3 *pippali* as starting dose is considered as *avara* (least) *matra* and can be given to a person have least strength.

Vardhamaana bhallataka rasayana³⁹: *Kwatha* (decoction) should be prepared with 5 *bhallataka phala* after *shodhana*. This prepared *kwatha* has to be taken as *paana* by applying *ghrita* to the oral cavity. Daily increase 5 *bhallataka phala* and prepare *kwatha* until *bhallataka* becomes 70 in number. Further reduce 5 *bhallataka phala* daily until *bhallataka* becomes 5 in number and then stop.

B. **Kalpa prayoga of parpati** ⁴⁰: *Vardhamana karma* administration is also seen in *parpati* dose administration where in chronic cases *Kalpa prayoga* of *parpati* is mentioned. Dose starts with 2 *ratti* and further increase of 1 *ratti* daily till it reaches 10 *ratti* dose. Then reduce 1 *ratti* daily till it reaches 2 *ratti*. Whereas *Chakrapani* has mentioned the increase of 2 *ratti* daily till it reaches 12 *ratti* dose.

C. **Administration of Jyotishmati taila**⁴¹: Daily for 6 *maasha*, Dose is increased



gradually till it reaches upto 4 *tola*. Dose should not increase more than 1 *pala* daily.

D. **Prayoga of Shilajatu rasayana⁴²**: One, three and seven *sapthaha* (weeks) of therapy in one *karsha*, half *pala*, and one *pala* as the dose are the *heena*, *madhyama* and *uttama* respectively for the use of *Shilajatu rasayana*.

E. **Administration of Lashuna rasayana⁴³**: Administration of very high dose can also be noted in *Lashuna rasayana*. *Avara matra*: 4 *pala*, *Madhyama matra*: 6 *pala*, *Utthama matra* : 8-10 *pala*

F. Many *rasayanas* are administered for **longer duration** i.e., months to year

Bhringaraja rasayana⁴⁴ - daily for 1 month

Varahikanda yoga⁴⁵ - 1 month

Sweta avalguja beeja rasayana - 1 month

Loha rasayanam⁴⁶ - 3 months

Thriphala kalka rasayana⁴⁷-1 year duration

Haritaki rasayana -1 year

Punarnava rasayana⁴⁸- till 1 year

G. Relation of Duration and Rasayana effect:

Brahmi swarasa rasayana⁴⁹ if administered for 7 days, the person becomes *tejasvi* and *medhavi*, if continued for another 7 days one can write *icchita grantha* and if consumed further for 7 days it enhances *smarana shakti*, i.e. the person will be able to get the manifold benefit of it. *Vachaghrita rasayana⁵⁰* produces benefits like increase in *sravana shakti*, *smriti shakti*,

dharana of *sravana shakti* and gets rid of *papakarma*, *garuda samana drushti* when consumed for 12, 24, 36 and 48 days respectively.

DISCUSSION

A number of single drug & formulations were mentioned particularly in *Rasayana chikitsa* in different *Samhita*. The dose of many among these *Rasayana* drugs were not specified along with the *phalasaruti*. So as per general rule the dose specified for the dosage form have to be considered. Meanwhile, it is pertinent to note that these formulations were indicated in certain diseases as curative apart from the *Rasayana* action. Whether the action as *Rasayana* and action as *vyadhihara* is attained with similar dose is the question which was key in this work. Because the dose of these formulations were not differentiated for *rasayana* effect from *vyadhihara* effect.

It was observed that the dose of certain drugs used as *rasayana* were higher from the general dosage, like in case of *Shilajatu rasayana*. The general dose is up to 1 gm where the dose mentioned under *rasayana* ranges from 12 gm to 48 gm. While the administration of *Parpati* in *Kalpa prayoga* the dose is higher (in 10 days upto 10 *ratti*) when compared to *Samanya prayoga* i.e., 1



to 2 *ratti* which is used for acute diseases. Also an increasing and decreasing pattern of dose along with the specific duration can be seen in this *Kalpa prayoga* similar to *Vardhamana krama* mentioned for *Vardhamana pippali* and *Vardhamana bhallathaka rasayana*. This observation suggests that the dose required for *vyadhihara* effect is lesser whereas the dose required for *rasayana* effect is higher. Movement of phyto constituents and micronutrients of formulations from one *dhatu* to other *dhatu* can be achieved by higher dose of medicaments. This particular increasing order along with a specified duration followed to administer the higher dose of the particular drugs makes the body ready to tolerate the excessive dose of the same drug gradually than causing harm by administering in single higher dose. The gradual decrease also helps the body not to cause any dependency or withdrawal effects.

Apart from the dose, the duration of administration of *rasayana* drugs also plays a key role in deciding its efficacy and target benefit. *Bhringaraja*, *Sweta avalguja beeja*, *Varahi kanda yoga*, etc. can be beneficial as *rasayana* by usage of period for a month. Increase in duration has results at different levels in the body. It can be inferred that the medicines when given till the vitiation of *dosha* and *dushya* comes to normalcy the

vyadhihara effect is seen and to achieve *rasayana* effect the formulations need to be taken continuously for prolonged duration. Further the prolonged intake allows the therapeutic potentials of the formulations to attain cumulative effect. When the accumulation reaches a particular level inside the body tissues, it starts stimulating various organs, *srotas*, tissues or other physiological parameters to accustom themselves to pathogenic stimulus.

Prime importance is given for the *bala* of the person while administering *rasayana*. As in the references of many *rasayana*, different doses are mentioned according to the *bala* of the person. Also without interfering the daily meals. eg: *Brahma rasayana*, *Chyavana prasha*. This definitely implies the importance of the dose of formulation for *rasayana*. The dose can be varied according to an individual's digestive capacity.

CONCLUSION

A number of single herbal, mineral and metal drugs possess *rasayana* property and also numerous formulations have been considered as *rasayana*. Dose with which the *rasayana* are administered are an important factor which decide the efficacy. In this review it was observed that dose is specified for few of the *rasayana* but for



many no specific dose is mentioned in *phalasaruthi*. Administration of *rasayana* in specific order and use of higher dose of drugs in this context suggests the importance of dose in achieving desired results from *rasayana*. A lead has to be taken from instances of *Shilajatu rasayana*, *Vardhamana pippali/ bhallataka*, *Parpati kalpa* which emphasizes the importance of the dose in particular to *rasayana* action rather than a *vyadhihara* (curative) action. This suggests that the dose of the *rasayana yogas* need to be validated rather than considering the dose mentioned for these *yogas* as per *kalpana*.



REFERENCES

1. Tripathi Brahmanada. (1999). Ashtanga Hridayam. 1st edition, Delhi: Chaukhamba Sanskrit Pratishtan, Pg.5.
2. Anonymous. (2008). Charaka samhita (Vol 3). Reprint edition, Varanasi: Chaukhamba Orientalia. Pg.1280.
3. Sharma R K, Bhagwan Dash. (2011). Caraka Samhita Sutrasthan (Vol 1). Reprint edition, Varanasi: Chaukhamba Sanskrit Series Office. Pg.106.
4. Belavadi Santosh N. (2011). Rasayana Sarvaswam. 1st edition, Gadag: Vaishnavi Publications. Pg.62
5. Tripathi Brahmananda. (1999). Ashtanga Hridayam. 1st edition, Delhi: Chaukhamba Sanskrit Pratishtan. Pg.1190
6. Tripathi Indradeva. (2011). Gadanigraha. Reprint edition, Varanasi: Chaukhamba Sanskrit Sansthan.Pg.607.
7. Dasji Govinda. (2006). Bhaishajya Ratnavali (Vol 3). 1st edition, Varanasi: Chaukhamba Sanskrit Bhawan, Pg.483.
8. Dasji Govinda. (2006). Bhaishajya Ratnavali (Vol 3). 1st edition, Varanasi: Chaukhamba Sanskrit Bhawan. Pg.487.
9. Jha Paksadhar. (2003). Rasayanatantra. 2nd edition, Varanasi: Chaukhamba Bharati Academy. Pg.65.
10. Dasji Govinda. (2006). Bhaishajya Ratnavali (Vol 1). 1st edition, Varanasi: Chaukhamba Sanskrit Bhawan. Pg.678.
11. Anonymous. (2013). Sahasrayogam. 32nd edition, Alappuzha: Vidyarambham Publishers. Pg.138-139.
12. Dasji Govinda. (2006). Bhaishajya ratnavali (Vol 3). 1st edition, Varanasi: Chaukhambha Sanskrit Bhawan. Pg.503
13. Dasji Govinda. (2006). Bhaishajya Ratnavali (Vol 2). 1st edition, Varanasi: Chaukhambha Sanskrit Bhawan.Pg.311
14. Sastri Parasurama Pandit. (2002). Sarangadhara Samhita. 5th edition, Varanasi: Chaukhambha Orientalia.Pg.202
15. Sastri Parasurama Pandit. (2002). Sarangadhara Samhita. 5th edition, Varanasi: Chaukhambha Orientalia. Pg.203
16. Tripathi Brahmananda. (1999). Ashtanga Hridayam. 1st edition, Delhi: Chaukhamba Sanskrit Pratishtan. Pg.1185
17. Tripathi Brahmananda. (1999). Ashtanga Hridayam. 1st edition, Delhi: Chaukhamba Sanskrit Pratishtan. Pg.602
18. Shukla Vidyadhara. (2007). Charaka Samhita. Reprinted edition, Delhi: Chaukhamba Sanskrit pratishtan. Pg.13
19. Jha Paksadhar. (2003). Rasayanatantra. 2nd edition, Varanasi: Chaukhamba Bharati Academy. Pg.102.
20. Shukla Vidyadhara. (2007). Charaka Samhita. Reprinted edition, Delhi: Chaukhamba Sanskrit Pratishtan.Pg.10
21. Sharma Priyavat. (1994). Cakradatta. 1st edition, Varanasi: Chaukhamba Orientalia. Pg.120.



22. Tripathi Brahmananda. (1999) Ashtanga Hridayam. 1st edition. Delhi: Chaukhambha Sanskrit Pratishthan. Pg.1203-1204.
23. Sharma Priyavat. (1998). Cakradatta. 2nd edition. Varanasi: Chaukhambha Publishers. Pg.576.
24. Murthy Srikantha. (2012). Susruta Samhita Chikitsa sthana (Vol 2). reprint edition. Varanasi: Chaukhambha Orientalia. Pg.264.
25. Tripathi Brahmananda. (1999). Ashtanga Hridayam. 1st edition, Delhi: Chaukhambha Sanskrit Pratishthan., Pg.1204-1205.
26. Tripathi Brahmananda. (1999). Ashtanga Hridayam. 1st edition, Delhi: Chaukhambha Sanskrit Pratishthan. Pg.1193.
27. Sastri Parasurama. (2002). Sharangadhara Samhita Madhyama Khanda. 5th edition, Varanasi: Chaukhambha orientalia. Pg.239
28. Rao Prabhakara G. (2014). Bhaishajya Ratnavali (Vol 1). 1st edition, Varanasi: Chaukhambha Orientalia. Pg.663.
29. Dasji Govinda. (2006). Bhaishajya Ratnavali (Vol 3). 1st edition, Varanasi: Chaukhambha Sanskrit Bhawan. Pg.506-507.
30. Chaube Dattam. (2000). Brihad Rasarajasundara. 3rd edition, Varanasi: Chaukhambha Orientalia. Pg.340.
31. Rao Prabhakara G. (2014). Bhaishajya ratnavali (Vol 1). 1st edition, Varanasi: Chaukhambha Orientalia. Pg.359.
32. Joshi Damodar. (2007). Rasamritam. Reprint edition, Varanasi: Chaukhambha Sanskrit Sansthan. Pg.93.
33. Sharma Sadanand. (2014). Rasatarangini. 8th edition, Varanasi: Motilal Banarasi Das. Pg.379.
34. Joshi Damodar. (2007). Rasamritam. Reprinted edition, Varanasi: Chaukhambha Sanskrit Sansthan. Pg.48.
35. Rao Prabhakara. G. (2014). Bhaishajya Ratnavali (Vol 1). 1st edition, Varanasi: Chaukhambha Orientalia. Pg.723
36. Dasji Govinda. (2006). Bhaishajya Ratnavali (Vol 3). 1st edition, Varanasi: Chaukhambha Sanskrit Bhawan. Pg.496-497.
37. Shukla Vidyadhara. (2007). Charaka Samhita. Reprinted edition, Delhi: Chaukhamba Sanskrit Pratishthan. Pg.30
38. Tripathi indradeva. (2011). Gadanigraha. Reprint edition, Varanasi: Chaukhambha Sanskrit Sansthan. Pg.605
39. Sastri Laksmipati. (1993). Yogaratnakara. 5th edition, Varanasi: Chaukhambha Sanskrit Sansthan. Pg.500
40. Sharma sadanand. (2014). Rasatarangini. 8th edition, Varanasi: Motilal Banarasi Das. Pg.131.
41. Saxena Nirmal. (2004). Vangasena Samhita (Vol 2). 1st edition, Varanasi:



Chaukhambha Sanskrit Series Office.
Pg.1107.

42. Sharma Priyavat. (1998). Cakradatta.
2nd edition, Varanasi: Chaukhambha
Publishers. Pg.591.

43. Shukla Vidyadhara. (2007). Charaka
samhita. Reprinted edition, Delhi:
Chaukhambha Sanskrit Pratishthan. Pg.34

44. Tripathi Brahmananda. (1999).
Ashtanga hridayam. 1st edition, Delhi:
Chaukhambha Sanskrit Pratishthan.
Pg.1202.

45. Tripathi Brahmananda. (1999).
Ashtanga hridayam. 1st edition, Delhi:
Chaukhambha Sanskrit Pratishthan.
Pg.1190.

46. Chaube Datram. (2000). Brihad
rasarajasundara. 3rd edition, Varanasi:
Chaukhambha orientalia. Pg.544.

47. Sharma Priyavat. (1998). Cakradatta.
2nd edition, Varanasi: Chaukhambha
Publishers. Pg.573

48. Tripathi Brahmananda. (1999).
Ashtanga hridayam. 1st edition, Delhi:
Chaukhambha Sanskrit pratishthan.
Pg.1201.

49. Murthy Srikantha. (2012). Susruta
samhita chikitsa sthana (Vol 2). Reprint
edition, Varanasi: Chaukhambha orientalia.
Pg.263.

50. Murthy Srikantha. (2012). Susruta
samhita chikitsa sthana (Vol 2). Reprint

edition, Varanasi:
orientalia. Pg.264-265.

Chaukhambha