



Review on Pharmacokinetic and Pharmacodynamic action of Gandhak Rasayana.

Dr. Suhani Naik¹, Dr. Swati V. Patil²

¹P.G. Scholar, Dept. of Rasashastra, Yashwant Ayurvedic College, Post Graduate Training & Research Center, Kodoli, Maharashtra

²ASSO. Professor, Dept. of Rasashastra, Yashwant Ayurvedic College, Post Graduate Training & Research Center, Kodoli, Maharashtra

ABSTRACT

Gandhak Rasayana is unique formulation, in which trituration of *Gandhak* is done with decoction of various herbs. Because of these procedure partical size become smaller .Total 96 *Bhavana* is given. Here we are trying to write hypothetical view on pharmacokinetic and pharmacodynamic action of *Gandhak Rasayana* on different stages of *samprapti* of certain selected diseases which are mention in *phalshruti*.

Keywords: *Gandhak Rasayana, Rasayana, Bhavana, Kushtha.*

INTRODUCTION

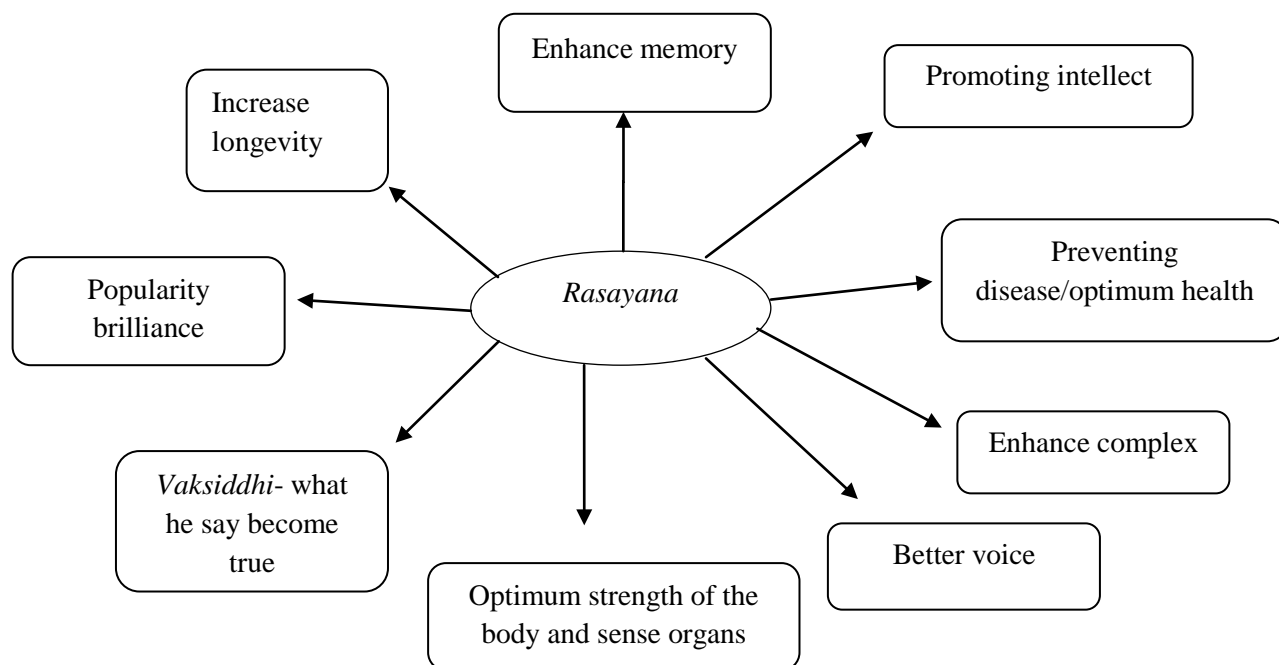
Gandhak Rasayana is described in *Yogratnakar*¹ under *Rasayanadhikar*. *Gandhaka Rasayana* work on *Pittadhara Kala*. Which act as *Rasayana*, enhance *Jatharagni*.

In the *phalashruti* of *Gandhak Rasayana*, *Yogratnakar* described the following diseases like – *Kushtha, Kandu, Atisar, Grahani, Jirnajwar, Prameha, Vishadosha, Vatarakta*. Also *yogratnakar* stated that if we consume *Gandhak Rasayana* for continue six months then it will becomes *Sarvarogahar* for us. So in this article I will put hypothetical view on explaining how *Gandhak Rasayana* would work in certain selected diseases. In short review a pharmacokinetic & pharmacodynamic action of this drug will be discussed.

RASAYANA

The word Rasayana means which support *Rasa*. The words *Rasayana* made up of *Rasa* and *Ayana*. The meaning of *Rasa* is nutritional food, best or finest part of constituent fluid while *Ayana* mean a way (path) going, circulating etc. Purest form of *Aahar Rasa* circulated all over the body. Nutrition of all levels from macro to micro cellular level.

Benefits of *Rasayana* in diagrammatic way - Ch.chi1/7



BHAVANA⁶

Bhavana is one type of *Samskara*.⁷ Which leads transformation of drug in many ways. (संस्कारोगुणान्तरधानमउच्यते). *Bhavana* is defined as a procedure in which the powder drug are mixed with some specific liquids and are triturated to dried by itself .It helps in potentiating the substance which shows desired effects in very low dosage. Addition of new properties, *Gunataradhana*, Augmentation (*Gunotkarsha*) or reduction or removal of undesired /poisonous properties (*Gunahani*) is expected through procedure.

Duration - One *Bhavana* required minimum 3 days - 24 hours.(8-8-8 hours per days)

MATERIAL AND METHOD

We have used *Samhitas* & articles² which are published for reference purpose.

Gandhak Rasayana is explained in *Yogratnakar*¹ under *Rasayanadhika*.

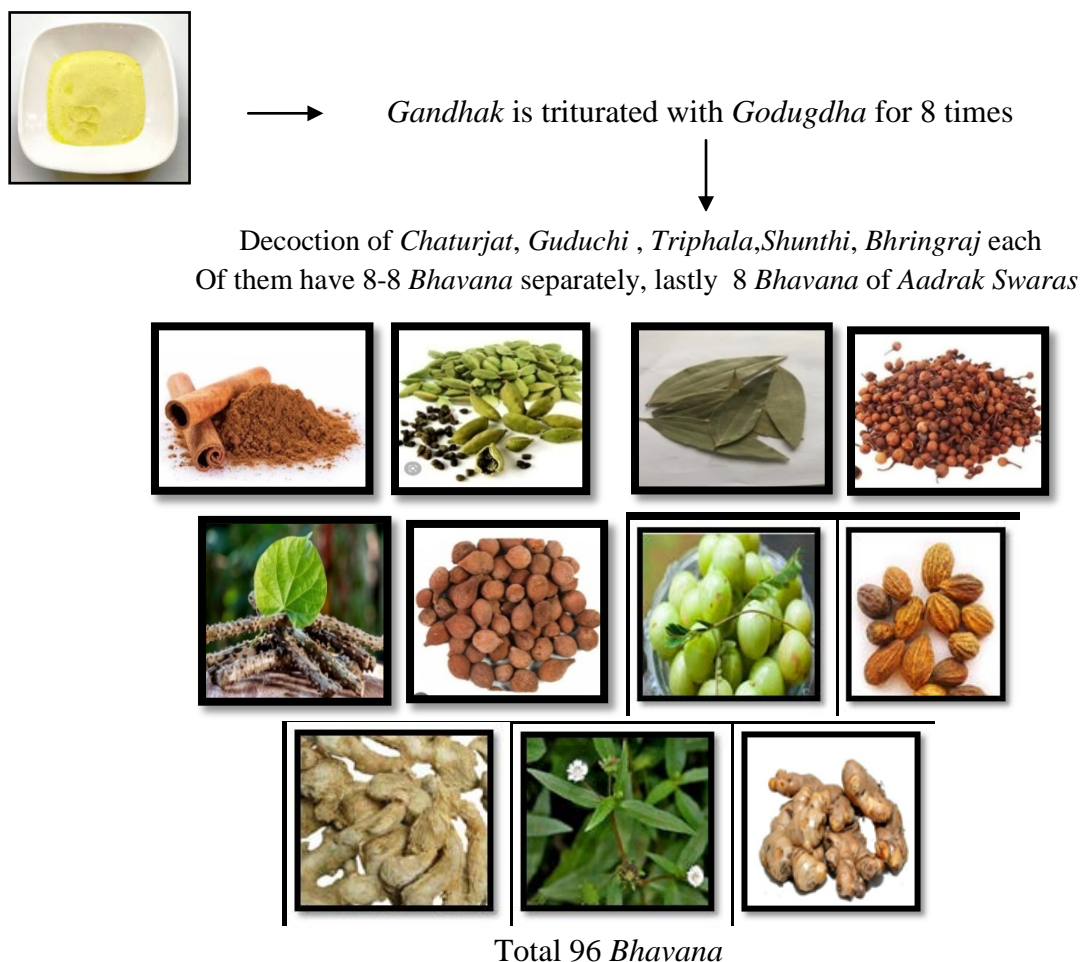
Gandhak is triturated with

- 1) *Godugdha* for 8 times
- 2) Decoction of *Chaturjat*
- 3) Decoction of *Guduchi*
- 4) Decoction of *Triphala*
- 5) Decoction of *Shunthi*
- 6) Decoction of *Bhringraj*

Each of them have 8-8 *Bhavana* separately. Lastly 8 *Bhavana* of *Aadrak Swaras* is given. Total 96 *Bhavana* is given to this *kalpa*, thus processed for 96 times with various herbal drugs and added with Sugar at last, the magical formulation called *Gandhak Rasayana* gives a tremendous therapeutic effects in curing and preventing purpose for ailments.

This is a *khalviya Rasayana kalpa*. It is useful for the breaking of specific *Samprapti* stages and to reduce symptoms and suffering. To enhance the potency and *Gramitva* of drug it is given with *Aamalaki kwatha*, *Guduchi kwatha* or *Sharkarajal* as *Anupana*.

Fig. No. 1



STUDY DESIGN

- 1) Pharmacokinetic action of *Gandhak Rasayana*
- 2) Pharmacodynamic action of *Gandhak Rasayana*

Dose – 2 *Gunja* – 4 *Gunja* (nearly 250 mg to 500 mg)

Route of Administration – Oral.

Review and study on pharmacokinetic action of *Gandhak Rasayana* -

The *Rasa*, *Vipak*, *Virya*, *Guna* and *Karma* as pharmacokinetics of drug are separately explained in (Table No. 1)

Table No. 1 :- *Rasa, Vipak, Virya, Guna and Karma, Doshagnata of Dravyas.*

Sr. No	Drug Name	Latin Name/English Name	Rasa	Vipak	Virya	Guna	Karma	Doshagnata
1	<i>Gandhak</i> ⁸	Sulphur	<i>Madhur</i>	<i>Katu</i>	<i>Ushna</i>		<i>Kushthaghna</i> <i>Kandughna</i> <i>Krumighna</i> <i>Rasayana</i> <i>Amanashak</i>	<i>Tridoshaghna</i>
2	<i>Twak</i> ¹⁰	Cinnamomum Zeylanicum	<i>Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Ruksha</i> <i>Laghu</i> <i>Sheeta</i>	<i>Deepan</i> <i>Pachan</i> <i>Vatalunoman</i>	<i>Vatapittahar</i>
3	<i>Ela</i> ¹¹	Amomum Subulatum	<i>Katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu</i> <i>Ruksha</i>	<i>Deepan</i> <i>Pachan</i> <i>Vatanuloman</i> <i>Uttejak</i>	<i>Kaphapittahar</i>
4	<i>Tamalpatra</i> ¹²	Cinnamomum Tamala	<i>Madhur</i>	<i>Katu</i>	<i>Ushna</i>	<i>Tikshna</i> <i>Laghu</i> <i>Picchila</i>	<i>Deepan</i> <i>Uttejak</i> <i>Mutrajanaan</i>	<i>Kaphavatahar</i>
5	<i>Nagkeshar</i> ¹³	Mesua Ferrea	<i>Kashaya</i>	<i>Katu</i>	<i>Ushna</i>	<i>Ruksha</i> <i>Laghu</i>	<i>Deepan</i> <i>Sangrahi</i> <i>Aampachak</i>	<i>Kaphapittahar</i>
6	<i>Guduchi</i> ¹⁴	Tinospora Cordifolia	<i>Katu</i> <i>Tikta</i> <i>Kashaya</i>	<i>Madhur</i>	<i>Ushna</i>	<i>Laghu</i>	<i>Rasayana</i> <i>Balya</i> <i>Sangrahi</i>	<i>Tridoshaghana</i>
7	<i>Haritaki</i> ¹⁵	Terminalia Chebula	<i>Pancharas</i> <i>except</i> <i>Lavan</i>	<i>Madhur</i>	<i>Ushna</i>	<i>Ruksha</i>	<i>Rasayana</i> <i>Anuloman</i>	<i>Tridoshaghana</i>
8	<i>Bibhitak</i> ¹⁶	Terminalia Bellirica	<i>Kashaya</i>	<i>Madhur</i>	<i>Ushna</i>	<i>Ruksha</i> <i>Laghu</i>	<i>Bhedan</i>	<i>Kaphapittahar</i>
9	<i>Aamlaki</i> ¹⁷	Emblica Officinalis	<i>Amla</i> <i>Madhur</i> <i>Kashaya</i>	<i>Madhur</i>	<i>Sheeta</i>	<i>Ruksha</i>	<i>Rasayana</i>	<i>Tridoshaghna</i>

10	Shunthi ¹⁸	Zingiber Officinale	Katu	Katu	Ushna	Laghu Singdha	Grahi Pachan	Kaphavata har
11	Bhringraj ¹⁹	Eclipta Alba	Katu		Ushna	Tikshna Ruksha	Balya Rasayana	Kaphavata har
12	Aadrak ¹⁴	Zingiber Officinale	Katu	Madhur	Ushna	Tikshna Guru	Deepan Bhedan	Vatakapha har
13	Sita ²⁰	Sugar	Madhur	Madhur	Sheeta		Shukrakarini	Vatapittaha r
14	Godugdha ²¹	Milk	Madhur	Madhur	Sheeta	Singdha Guru	Balya Medhya Shukral	Vatapittaha r

Review and study on pharmacodynamic action of Gandhak Rasayana

KUSHTHA²³

Due to *viruddha annapana*, excessive intake of liquid, *snigdha* and *guru dravyas*. All three *Dosha* are vitiated along with impaired *Twak*, *Rakta*, *Mamsa* and *Ambu* together seven constitute essential entities which play role in pathogenesis of *Kushtha*.

- *Vicharchika* - Type of *Kushtha* which is *Rakta pradoshaj vikar* being involved of three *Dosha* with predominance of *Kapha*.
- *Pama*- Type of *Kushtha* which is *Pitta* and *Kapha pradoshaj vikar* along with *Kandu*.
- *Dadru* - Type of *Kushtha* mainly involves vitiation of *Pitta* and *Kapha Dosha* along with *dushti* of *Rasa* and *Rakta* having complaint of *kandu, mandal, raga, pidikas*.

The drugs include in *Gandhak Rasayana* are-

- *Gandhak* – Antifungal, Antimicrobial
- *Twak* -Antibacterial, Fungistatic
- *Tamalpatra*-Essential oil Fungicidal
- *Nagkeshar*-Essential oil from stamens Antibacterial, Antifungal²⁷

Gandhak Rasayana mainly acts on skin, blood and it is *Rasayana* in action.

Gandhak Ushna Viryatamak and *Katu Rasa Vipaki* so act as best *Kaphaghna* & *Kledaghna*.

Bhavana Dravyas has property of *Madhur Rasa Sheet Virya* due to which they acts as *Pittaghna* and *Rakatprasadan* and help cure *Kushtha*.

The drugs which are formulated in *Gandhak Rasayana* are of *Katu Tikta, Kashaya Rasa* predominant which break the *samprapti* of *Kushtha*.

KANDU

Consumption of *Kaphakar aahar-vihar* increases *Kapha Dosha* along with *Rasadhatu*. *Aam* and *Agnimandya* are favorable conditions for *Krimi* and *Kandu*. *Gandhak Rasayana* contain the drugs like *Twak*, *Ela*, *Tamalpatra*, *Nagkeshar* are *Agni* enhancer and expel *Aam* easily also improves digestion. *Deepan* and *pachan* drugs they are having *Katu*, *Tikta*, *Kashaya Rasa*, *Ushna Virya* and *Katu Vipak*. These properties are useful in *Kruminashakchikitsa (prakrutivighat)*. Thus it is helpful in *Kandu*.

ATISAR²⁴

The drugs present in *Gandhak Rasayana*, i.e. *Shunthi* which is *Grahi*, help in *Atisar*. The drug *Bhringraj* works on *Pitthadhara Kala*, it improves the digestive work, because of this property *Bhringraj* play important role in *Atisar*. *Katu*, *Tikta Rasa* of *Twak*, *Ela*, *Tamalpatra*, *Nagkeshar* improve *Deepan* and *Pachan* karma. *Gandhak*, *Guduchi* acts as *Rasayana* & *Balya*.

GRAHANI²⁵

Gandhak Rasayana reduces *Agnimandya*, which is causative factor of *Grahani* because of *Deepan Guna* of *Twak*, *Tamalpatra*, *Ela*, and *Nagkeshar* etc and if used after formation of *shuktapak* due to *Agnimandya*. It is useful by *Pachan Guna* of *Shunthi*, *Twak*, *Ela*, *Nagkeshar*, *Bhringraj*. The drug *Bhringraj* works on *Pittadhara Kala*, it improves the digestive work, because of this property *Bhringraj* play important role in *Grahani*.

PRAMEHA²⁶

In *Prameha* all the three *Dosha* are vitiated, but in that *Kapha* is predominant. The main factors during *Samprapti* are *Kledak Kapha dushti*, *Dhatwagni mandya*, *Dhatushaithilya*, *Kleda*. Most of the drugs in *Gandhak Rasayana* are *Katu*, *Tikta*, *Kashaya Rasatamak*, *Laghu*, *Ruksha Gunatmak* & *Ushna Viryatmak* which helps to destroyed the *Samprapti* of *Prameha*. *Deepan*, *Pachan* karma of *Gandhak Rasyana* reduces the *Dhatwagni mandya*. Due to *Rasyana karma*, *Gandhak Rasayana* reduces the *Dhatushaithilya*. *Kleda* is another main factor responsible in *Samprapti* of *Prameha*. *Gandhak Rasayana* contains drugs like *Guduchi*, *Triphala* etc which reduces the *Kleda*.

OBSERVATION AND RESULTS

In case of *Kushtha*²³ - *Gandhak* acts as Antimicrobial Antifungal, *Kaphaghna*, *Kledaghna* properties. Other drugs are *Katu*, *Tikta*, *Kashaya Rasa* which reduces predominant *Kapha*, *Pitta Dosha*. Also the substances having properties like *Ruksha*, *Laghu*, *Ushna* has effect to decrease the vitiated *Kapha* & *Kleda* and maintain the proper functioning of *Dhatwagni*.

In case of *Kandu* - *Gandhak Rasayana* help to reduce *Aam*, improves digestion and enhance the *Agni*. *Deepan*, *Pachan* drugs contains *Katu*, *Tikta* *Kashaya Rasa* which reduce vitiated *Kapha Dosha*.

In case of *Atisar*²⁴ - *Shunthi* acts as *Grahi*, which is due to it's *Ushna Virya* and *Katu Rasa*. *Gandhak* reduce *Dourbalya*.

In case of *Grahani*²⁵ - *Gandhak* and *Bhringraj* play important role on *Pittadhara Kala*. Other drugs like *Shunthi*, *Guduchi*, *Aadark* improves *Deepan* and *Pachan* karma.

In case of a *Prameha*²⁶ - *Gandhak Rasayana* reduces the *Kledak Kapha dushti*. As well as it increases the *Dhatwagni* & repairs the *Dhatushaithilya*.

In this way, although *Gandhak Rasayana* come under *Rasayanadhikar*. It works on diseases which are stated in *phalshruti* of *Gandhak Rasayana* as explained above in our opinion.

DISCUSSION

Gandhak Rasayana is described in *Yogratnakar* under *Rasayanadhikar*. which are unique formulation of having 96 *Bhavana*. Most of the drugs of *Gandhak Rasayana* are *Katu*, *Tikta*, *Kashaya Rasa* with *Laghu*, *Ruksha Guna* & *Ushna Virya*. They are having properties like *Kaphaghna*, *Kledaghna*, *Raktaprasadak*, *Krimighna*, *Kushthaghna*, *Agnideepak*, *Pachak*. Hence they are useful in various diseases like *Kushtha*, *Kandu*, *Atisar*, *Grahani*, *Vishadosha*, *Vatarakta*, *Jirnajwar* etc. To enhance it's properties & *Gamitva Aamalaki kwatha*, *Haridra kwatha*, *Guduchi kwatha* or *Sharkarajal* etc given as *Anupana*. In this article we tried to explain how the *Gandhak Rasayana* works in above stated diseases which are our hypothesis.

CONCLUSION

Gandhak Rasayana which acts as a *Rasayana* because in these *kalpa* using 96 *Bhavana*, particle size become smaller which enter to all *sukshmastrotasas* with the help of *Anupana* and acts on *Dosha*, *Dhatu*, *Mala*. Lastly added Sugar which acts as energy source to reach the

drugs on their targeted organs and systems. Different *Bhavana dravyas* in *Gandhak Rasayana* acts as Bactericidal and thus causes blood purification. *Gandhak Rasayana* can be used in *Kushtha, Kandu, Atisar, Grahani, Prameha, Jirnajwar, Vishadosha*, etc. Conceptually it is concluded that the substances having properties like *Ruksha, Laghu, Katu & Ushna* has the effect to decrease the vitiated *Kapha & Kleda* also maintain the proper functioning of *Dhatvagni*. All karmas related to *Chikitsa* are in one dosage form like *Vyadhipratyanik Dravyas* and *Yogavahi Dravyas*. As described here the hypothetical study, clinical study is needed. To find efficacy of *Gandhak Rasayana*.

REFERENCES

1. Vd. Laxmi patishastri yogratnakar choukhamba prakashan Varanasi 2021, Rasayana dhikar, page. No. 501-502.
2. Role of Gandhak Rasayan in shushka vicharchika – Ayushdhara (International journal of research in AYUSH & allied system) - Patil Kavita Sachin, Phartale vaibhav dattatray, patil sachin madhav, May-june 2017, vol IV, issue 3.
3. Pranacharya shree sadanand sharma by motilal banarasidas rastaringini, 8 tarang, shlok No.81-86, Page No.189-190.
4. Vd. Shree. Gulraj Sharma Mishra, Ayurved Prakash of Acharya shree Madhav choukhamba bharati academy Varanasi, 1999, adhyay 2, sholk no.46-48, page no.268.
5. Vd. Vijay Shankar kale, charak samhita, choukhamba Sanskrit Pratisthan, 2014, Rasayan adhyay 1st Edition shlok No.7, Page No.5.
6. Pranacharya shree sadanand sharma by motilal banarasidas rastaringini, 2 tarang , shlok No.49, Page No.21.
7. Dr. Laxmidhar dwivedi charak samhita chakrapani data virachit Ayurveddipika choukhamba krishndas Academy Varanasi 2014, charak vimansthan 1/21(2), page no.773.
8. Dr. Indradev tripathi Rasaratnasamucchaya of vagbhatacharya choukhamba Sanskrit sansthan Varanasi, 2013, adhyay 3, shlok no.17-18, page no.27.
9. Dr. Siddhinandan Mishra Ayurevdiy Rasashastra ,choukhamba Orientalia ,Varanasi ,2014,Page.No.356.
10. Dr. Krushnachandra chunekar ,Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi,2020,Page No.216.
11. Dr. Krushnachandra chunekar ,Dr. Gangasahay Pandey, Bhavprakash Nighantu,choukhamba Bharati Academy Varanasi, 2020, Page No.211-222.

12. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.218.
13. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.219.
14. Dr. Krushnachandra chunekar ,Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi,2020, Page No.257.
15. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.7.
16. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.09.
17. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.10.
18. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.13.
19. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.414.
20. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.14.
21. Dr. Krushnachandra chunekar, Dr.Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.780.
22. Dr. Krushnachandra chunekar, Dr. Gangasahay Pandey, Bhavprakash Nighantu, choukhamba Bharati Academy Varanasi, 2020, Page No.743.
23. Vd. Yashwantjoshi, kayachikitsa, sahiyta pune, 2014, page .no.156.
24. Vd. Yashwantjoshi, kayachikitsa, sahiyta pune, 2014, page .no.429.
25. Vd. Yashwantjoshi, kayachikitsa, sahiyta pune, 2014, page .no.446.
26. Vd. Yashwantjoshi, kayachikitsa, sahiyta pune, 2014, page .no.515.
27. C.P. Khare, An Illustrated dictionary,