

BRIEF CONCEPT OF RASAYANA

*¹Dr. Diksha Sharma, ²Dr. Preeti, ³Dr. Arpita Sharma and ⁴Dr. Riyanka Kumari^{1,2,3}M.D. (Ayu.), P.G. Department of Rasa Shastra and Bhaishajya Kalpana, R.G.G.P.G. Ayurvedic College, Paprola.⁴M.D. (Ayu.), P.G. Department of Swasthavritta, R.G.G.P.G. Ayu. College, Paprola.

*Corresponding Author: Dr. Diksha Sharma

M.D. Ayu. P.G. Department of Rasa Shastra and Bhaishajya Kalpana, R.G.G.P.G. Ayurvedic College, Paprola.

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ABSTRACT

Ayurveda is the science of life through which a prolonged, happy and healthy life can be attained. The main aim of this ancient holistic science is to maintain the health of a healthy individual and to alleviate disorders of the diseased. Two fold aim of *Ayurveda* can be furnished through the special branch *Rasayana*. *Rasayana Chikitsa* has importance from both preventive and curative aspect of the disease. To achieve healthy and longevity in life, there are various types of *Rasayana* described in *Ayurveda*. The *Rasayana* therapy has to be practiced with a number of prerequisites such as *Vaya* (age), *Prakriti* (constitution), *Satamyā* (adaptability), and the status of the *Doshas*, *Dhatu*s, *Agni*, *Ojas*, *Strotas* and others. The *Rasayana* therapy has principal object to promote rejuvenation, retard ageing process, defend body from various diseases, regulate metabolism and provide physical and mental strength.

KEYWORDS: *Ayurveda*, *Rasayana*, *Dhatu*s, Rejuvenation.

INTRODUCTION

Ayurveda is not only the oldest system of medicine, but also it is claimed to be the first systematic science ever evolved throughout the world. It is the science of life through which a prolonged, happy and healthy life can be attained. It has been serving to remove sufferings and miseries of the mankind since time immemorial. It prolongs life span, maintains positive health and cures diseases. The main aim of this ancient holistic science is to maintain the health of a healthy individual and to alleviate disorders of the diseased.^[1] Two fold aim of *Ayurveda* can be furnished through the special branch *Rasayana*. There has been the desire of mankind to lead a disease free life to its fullest extent. *Rasayana* is the only means to accomplish it. In fact, *Rasayana* is one of the eight branches of *Ayurveda*. *Rasayana Chikitsa* has importance from both preventive and curative aspect of the disease.

Rasayana is the branch of *Ayurveda* which is related with the protection of health and longevity. The word '*Rasayana*' is composed of two words – *Rasa* and *Ayana*. From the literary meaning of *Rasa* and *Ayana*, it can be drawn that *Rasayana* is a regimen or the substance with the help of which one can attain, metabolize and channelize the better quality of *Rasa Dhatu* and other *Dhatu*s up to the smallest unit of the body. By doing so, one can live long, healthy life free from ailments, attain physical and mental strength, retards the process of ageing and there will be longer life expectancy.

Etymology

The term '*Rasayana*' is composed of two words- "*Rasa*" + "*Ayana*"

The word '*Rasa*' is formed from '*Rasa Gatuo*' *Dhatu*, which literally means 'one who moves day and night'.^[2]

The word '*Ayana*' means pathway, movement, road, place, site etc.

The term '*Rasa*' has various meanings in different contexts such as taste (*Svade tiktado*), liquid (*Drave*), water (*Ambu*), mercury (*Parada*), first *Dhatu* of the body (*Dehadhatva*) etc. Although in the context of *Rasayana*, the best suited meaning of "*Rasa*" is the essence of *Ahara Rasa*, and this '*Ahara Rasa*' is known to the premier nutrition of the body tissues hence it is counted as a precursor of all tissues.

So '*Rasa*' means 'nutrition' and '*Ayana*' means 'microcellular channels' and hence '*Rasayana*' essentially means nutrition at microcellular level.

Definition of *Rasayana*

- The means by which one gets the excellence of *Rasa Dhatu* (the nourishing fluid which is produced immediately after the digestion) and other *Dhatu*s is known as *Rasayana*.^[3]
- *Rasayana Tantra* is the branch which deals with delaying of ageing process, increasing of intellect and strength, prolongation of life and curing of disorders.^[4]

- According to *Sharangadhara Samhita*, *Rasayana* is a measure which delays ageing, prevent diseases and thus maintain the positive health.^[5]

Classification of *Rasayana*

To achieve healthy and longevity in life, there are various types of *Rasayana* therapy described in *Ayurveda* which is as follows

• On the basis of mode of administration

In *Charaka Samhita*, *Rasayana* is classified into two types^[6]

1. ***Kutipraveshika Rasayana*** - The *Rasayana* is administrated to the individual when he is staying in a specially built room (*Trigarbha Kuti*) where he has to follow a strict regimen. Before administration of *Rasayana*, his body is purified first by *Panchkarma* and then he is subjected to *Rasayana sevana*.

2. ***Vatatapika*** - The *Rasayana* can be administrated even if individual is exposed to external environment (*Vata* and *Atapa*). This treatment is especially suitable for those who cannot stay in *Kuti* for a long time.

• On the basis of mode of action- *Rasayana* is further classified into two types^[7]

1. ***Samshodhana Rasayana*** - It rejuvenates body by expelling the aggravated *Doshas*.

2. ***Samshamana Rasayana*** - It rejuvenates body by pacifying the accumulated *Doshas*.

• On the basis of Utility - *Rasayana* is classified into 3 types.^[8]

1. ***Kamya Rasayana*** - *Kamya* means fulfillment of 'desire'. Hence *Kamya Rasayana* are those which are used to serve a special purpose in life. It is further sub-divided into various types -

- a) ***Prankamya*** - Promotes vitality and longevity.
- b) ***Medhakamya*** - Promotes intelligence and memory.

c) ***Shrikamya*** - Promotes complexion and luster.

2. ***Naimittika Rasayana***- This *Rasayana* is used in the treatment of various disorders as it hastens the recovery from prevailing diseases. Thus *Naimittika Rasayana* is nothing but *Rasayana* specific to diseases.

Some important *Naimittika Rasayana* are

- *Vata Vyadhi* - *Rasona, Gugglu, Vacha*
- *Prameha* - *Shilajatu, Amalaki, Haridra*
- *Pandu* - *Amalaki, Lauha*
- Urinary Disorder - *Gokshura, Punarnava, Shilajatu*

3. ***Aajasrik Rasayana*** - It is the use of food substance on regular basis for body nourishment. This *Rasayana* promotes immunity and prevents the nutritional disorders. e.g. Cow's milk, Ghee, Honey etc.

• On the basis of *Dravya*- *Rasayana* is classified into 2 types.^[9]

1. ***Dravyabhuta Rasayana*** - *Dravya* means substances. The *Rasayana* therapy where various herbs, minerals and foods are used is known as *Dravyabhuta Rasayana* therapy.

2. ***Adravabhuta Rasayana*** - *Adravya* consequently means that where no substance is used, hence when modalities like good behavior, meditation etc. are used. This is also known as *Achara Rasayana*.

• On the basis of drug, diet and lifestyle- It is further divided into 3 types -

1. ***Aushadha Rasayana*** - Based on drugs and herbs
2. ***Ahara Rasayana*** - Based on diet and nutrition
3. ***Achara Rasayana*** - Based on conduct, behavior and lifestyle.

❖ *Rasayana* Drugs according to *Dehaprakriti*

Table 1: Showing *Rasayana* drugs according to *Dehaprakriti*.^[10]

| S. No. | <i>Prakriti</i> | <i>Rasayana Dravya</i> |
|--------|-----------------------|--|
| 1. | <i>Vaata Pradhana</i> | <i>Bala, Vacha</i> |
| 2. | <i>Pitta Pradhana</i> | <i>Amalaki, Shatavari, Ghrita</i> |
| 3. | <i>Kapha Pradhana</i> | <i>Bhallataka, Rasona, Gugglu, Pipalli</i> |

❖ *Rasayana* Drugs affecting *Sapta Dhatus*

Table 2: Showing *Rasayana* drugs according to *Sapta Dhatus*.^[11]

| S. No. | <i>Dhatu</i> | <i>Rasayana Drug</i> |
|--------|---------------|------------------------------------|
| 1. | <i>Rasa</i> | <i>Kashmari, Kharjura, Draksha</i> |
| 2. | <i>Rakta</i> | <i>Lauha, Amalaki, Bhringaraja</i> |
| 3. | <i>Mamsa</i> | <i>Ashwagandha, Bala, Nagabala</i> |
| 4. | <i>Meda</i> | <i>Amrita, Haritaki, Guggulu</i> |
| 5. | <i>Asthi</i> | <i>Vanshalochana, Laksha</i> |
| 6. | <i>Majja</i> | <i>Lauha, Vasa</i> |
| 7. | <i>Shukra</i> | <i>Vajikarna drugs</i> |

Rasayana for Different Stages of Life

According to *Sharangadhara Samhita*, all of us tend to loose certain characters and qualities of life during each

stage of life,^[12] and hence during every stage of life all persons must take *Rasayana* to protect these qualities.

Table 3: Showing Rasayana drugs according to the age group.^[13]

| Age Group | Name of declining attribute | Suitable Rasayana |
|------------|-----------------------------|-----------------------------|
| 1 – 10 | Balya – Children | Vacha, Swarna |
| 11 – 20 | Vridhhi – Growth | Ashwangadha, Bala |
| 21 – 30 | Chhavi – Complexion | Lauha, Amalaki |
| 31 – 40 | Medha – Intelligence | Jyotishmati, Shankhpuspi |
| 41 – 50 | Twaka – Skin | Bhringaraja, Priyala |
| 51 – 60 | Drishti – Eye sight | Triphala, Lauha |
| 61 – 70 | Shukra – Sexual capacity | Atmagupta. Vajikarana drugs |
| 71 – 80 | Vikrama – Courage | Drugs may not be effective |
| 81 – 90 | Buddhi – Intelligence | Drugs may not be effective |
| 91 – above | Karmendriya – Motor organs | Drugs may not be effective |

Practice of Rasayana Therapy

The Rasayana therapy has to be practiced with a number of prerequisites such as Vaya (age), Prakriti (constitution), Satamy (adaptability), and the status of the Doshas, Dhatus, Agni, Ojas, Strotas etc. Apart from the economical conditions, Satva, type of disease, Bala of a person should also be kept in mind. Samshodhana Karma has been advocated as an important preparatory measure before administration of Rasayana therapy. Just as dyeing a dirty cloth does not make the color shine bright, Rasayana therapy is unsuitable/unbeneficial to him who has not undergone purificatory therapies before Rasayana.¹⁴ It helps in elimination of Doshas leading to proper purification of the body at the cellular level. At this level, absorption and metabolism is improved which leads to faster and optimum action of the drugs on the body.

Rasayana therapy may be used in both types of persons i.e. as a mean to improve health and vigor in healthy (Kamy Rasayana) or it may be used as an adjunct to the specific medical treatment of a particular disease (Naimittika Rasayana). The latter is not the specific treatment for a disease but is a specific Rasayana suitable for a particular diseased person. Also the pharmacological properties of the Rasayana like Rasa, Guna, Virya, Vipaka, Prabhava should also be taken into consideration as all these factors influence the effect of any substance in the body. Hence it is important to consider them before administering Rasayana.

Indications for Rasayana

Rasayana drugs can be administrated in two ways i.e. by Kutipravesika and Vatatapika method. Everyone can use Vatatapika method of Rasayana administration but specific indications are mentioned for Kutipravesika Rasayana. Person with the following qualities should be considered fit for using Kutipravesika Rasayana.^[15]

- Capable of bearing all the expenses of the treatment
- Free from diseases
- Determined mind
- Good self-control
- Enough free time to undergo the therapy properly.

Age for Rasayana Administration-

Rasayana therapy is indicated either in young age (Purva Vaya i.e. 16 to 30 years) or middle age (Madhyam Vaya i.e. 30 to 60 years).^[16]

Balyavastha has not been chosen for Rasayana because it is the time when the growth of body occurs naturally and the whole energy is attended towards the growth of the body. In Vridhdhavastha, it may not be useful when aging process has under gone irreversible changes. So Madhyamavastha is the best time to attain the maximum benefits of Rasayana therapy.

Contraindications for Rasayana Therapy

Acharya Sushruta has said that Rasayana therapy is contraindicated to following seven types of people.^[17]

1. Anatmavana (Intemperate)
2. Alasi (Lazy)
3. Daridra (Poor)
4. Pramadi (Unwise)
5. Vyasani (Addict)
6. Paapkruta (Sinful)
7. Bhashajapmani (who do not trust on medication)

Beneficial effect of Rasayana is not perceived due to the following seven reasons.^[18]

- Lack of knowledge
- Non commencement of the treatment
- Instability of the mind
- Poverty
- Dependence
- Wrong deeds
- Inability to secure the genuine drug

Benefits of Rasayana Therapy

In Charaka Samhita, following benefits of Rasayana therapy are mentioned.^[19]

- Promotes longevity of life
- Improved mental and intellectual competence
- Provides immunity against diseases resulting in positive health
- Delays ageing process by preserving youthfulness
- Improvement in the complexion and luster of the skin
- Enrichment in Swara (voice)

- Optimization of strength of body and *Indriyas* (motor and sense organs)
- Command over speech
- Attaining humbleness and politeness
- Excellence of body glow
- Proper, accurate balanced and premium production of all the *Sharira Dhatus* (From *Rasa Dhatu* to the *Shukra Dhatu*)

Effect of *Rasayana*

Table 4: Showing the comparison of the effect of *Rasayana* given in the *Brihatrayee*.

| Effect of <i>Rasayana</i> | <i>Charaka Samhita</i> | <i>Sushruta Samhita</i> | A.H. |
|---------------------------|------------------------|-------------------------|------|
| <i>Arogya</i> | + | - | + |
| <i>Dheerghayu</i> | + | + | + |
| <i>Tarunyavaya</i> | + | + | + |
| <i>Samriti</i> | + | - | + |
| <i>Medha</i> | + | - | + |
| <i>Prabha</i> | + | - | + |
| <i>Varna</i> | + | - | + |
| <i>Swara</i> | + | - | + |
| <i>Dehabala</i> | + | + | + |
| <i>Indriyabala</i> | + | - | + |
| <i>Vaksiddhi</i> | + | - | + |
| <i>Pranati</i> | + | - | + |
| <i>Kanti</i> | + | + | + |
| <i>Virya</i> | - | + | - |
| <i>Odarya</i> | - | + | - |
| <i>Vristyata</i> | - | - | + |

Dose of *Rasayana*

Generally dose is not specified for *Rasayana*, as it varies from person to person according to their *Agni*. It is mentioned that *Rasayana* drugs should be taken in such a dosage that it does not hamper the food consumption of the person.^[20]

Factors to Be Avoided

To attain the benefits of *Rasayana*, person should avoid diet and lifestyle as mentioned below

1. *Aharaja* (Dietary Factors)

- Substandard diet
- Sour, salty, pungent and alkali food.
- Dry vegetables and meat.
- Germinated cereals and pulses, freshly harvested, unwholesome, dry, *Abhisyandi*, heavy, putrid and stale food.
- Irregular food intake.
- Food taken before the digestion of earlier consumed food.

- Alcohol.

2. *Viharaja* (Lifestyle factors)

- Day sleep
- Regular sexual intercourse
- Irregular excessive exercise
- Over exertion and work

3. *Mansika* (Psychological factors)

- Excess fear, anger, grief greed and infatuation.

Modern Science and *Rasayana* Therapy

Rasayana is a science of nutrition. It provides nourishment to all the seven *Dhatus*. It is not only a drug

therapy but is a specialized procedure practiced in the form of rejuvenation recipes, dietary regimen and special health promoting conduct and behaviour. The *Rasayana* therapy has principal object to promote rejuvenation, retard ageing process, defend body from various diseases, regulate metabolism and provide physical and mental strength. This object when analyzed clinically, pharmacologically and biochemically is not indicating a single activity but a number of mechanisms that may vary from compound to compound. The possible mechanisms by which action of *Rasayana* can be represented in modern aspects are -

1. Immuno-modulator action
2. Anti-oxidant effect
3. Anti-stress and adaptogenic effect
4. Nootropic effect
5. Cyto-protective effect
6. Anabolic effect

Immuno-Modulator Action

A substance that modifies the immune response or the functioning of the immune system e.g. by the stimulation of antibody formation or the inhibition of WBC activity. (www.merrian-webster.com)

They are categorized into two types

1. Immuno-stimulators
 2. Immuno-suppressants
1. **Immuno-stimulators** - These drugs stimulate the immune system by inducing activation or increasing activity of any of the components.

Further they are classified again into two types

- a) Specific Immuno-stimulators
 - b) Non-specific Immuno-stimulators
- a) **Specific Immuno- Stimulators** - These provide antigenic specificity in immune response, such as vaccines or any antigen.
 - b) **Non Specific Immuno- Stimulators** - They act irrespective of antigenic specificity to augment immune response of other antigen or stimulate components of the immune system without antigenic specificity such as adjuvant and non-specific immuno- stimulators.
2. **Immuno Suppressive Drugs** - These drugs inhibit or prevent the activity of the immune system. These drugs are used in immunosuppressive therapy to-
- Prevent the rejection of transplanted organs and tissues. (e.g. bone marrow, heart, kidney, liver)
 - Treat autoimmune diseases or diseases that are most likely of autoimmune origin (e.g. rheumatoid arthritis, systemic lupus erythematosus, ulcerative colitis etc.)
 - Treat some other non-autoimmune inflammatory diseases (e.g. long term allergic asthma control).

These drugs are not free from side effects and risks because the majority of them act non-selectively and the immune system loses its ability to successfully resist infection and spreading of malignant cells.

Although most of the *Rasayana* of the *Ayurveda* are of non-specific type of immune- modulators. They usually act to strengthen the immune system as a whole increasing the quality and quantity of the components up to the level of perfection. As immune-stimulant help in the formation of healthy and potent components of immune system and as immune-suppressant their action is to prevent autoimmune response and some other non-autoimmune inflammatory diseases. Here, they help firstly by formation of healthy and absolutely normal cells in all system of the body. (e.g. connective tissue in rheumatoid arthritis) including immune system so as to prevent misjudgment of the self as non-self and useful as harmful and check over response (hypersensitivity etc.) to a particular substance and also control the activities of the CD₄⁺ T cell mediated immune response which cause killing of antigen containing macrophages with wide stresses destruction of innocent cells too. But the *Rasayana* having minerals, or other drugs are more expected for specificity in immune action. That is why many of the *Rasayana* in the *Rasa Chikitsa* texts are mentioned in the chapters describing specific diseases.

Anti-Oxidant Effect

Antioxidant is defined as “substances” whose presence in relatively low concentration significantly inhibits the role of oxidation of targets.

Each cell in our body protects itself from damage by producing free radicals scavengers. Everyday millions of

molecules of free radicals are produced, if these free radicals attack together, then living organism fails to exist. Thus balance is maintained between free radical production and scavenging activity of enzymes. This is known as antioxidant defense system and enzymes are known as antioxidants.

Anti-Stress and Adaptogenic Effect

The concept of ‘adaptogen’ was coined in 1941 by a Russian Scientist, Lazarev. He defined them as substances meant to put the organism into a state of non – specific heightened resistance in order to resist stresses and adapt to extraordinary challenges.

Adaptogens are a group of medically effective substances that normalize body functions, strengthen system and functions compromised by stress and have a protective effect against a wide variety of environmental emotional stresses.

A drug with *Rasayana* quality can benefit the user in two distinct ways. In one hand, it can neutralize the negative effects of stress on physiology and restore homeostasis i.e. anti- stress effect and on the other hand, a long term administration of such drugs may enhance one’s own tolerance levels and thus keep the person to cope up with stress in a better way i.e. adaptogenic effect.

Cytoprotective Effect

In the modern science cyto-protection is explained by the action of proteins.

Proteins are present in body in two different fractions:-

- Tissue proteins
- Plasma proteins

It is the tissue proteins which are responsible for forming different tissues and thus for the building up the body. Plasma proteins constitute globulins which are responsible for the body immunity.

Rasayana drugs correct *Dhatuvyapara* thus lead to production and protection of tissue proteins. Hence it is responsible for building up of the body. It was well known to *Ayurvedic* physician that the delicate cellular machinery of the body suffers from trauma (stress) resulting in wear and tear of different body structure and deterioration of the functional capacity of human being. For cytoprotection, procedures of revitalization and rejuvenation were adopted to increase the power of resistance to disease. Hence *Rasayana* drugs acts as cyto-protective agents.

Nootropic Effect

Noos – mind and tropein – turn

“Acting on the mind” i.e. capable of enhancing mental functions. Nootropics (cognition enhancers) are effective psychopharmacological agents, which are said to improve the higher integrative brain functions, such as memory, learning, understanding, thinking and the capacity for concentration. No specific mechanism is

known. It is assumed that nootropics stimulate existing neural synapses to optimum performance and also for damaging influence, such as disturbances of the energy and neurotransmitter metabolism or ischemia induced damage.

Anabolic Effect

Anabolism is defined as “the building up of complex chemical substances from smaller, simpler components”. (Tortora G.J et.al. 80pp Tortora, at 98pp)

Anabolics are substances, which activate the anabolic metabolism. They promote the synthesis of nucleic acids and protein metabolism, thereby assist in general growth.

The *Brimhana* effect of *Rasayana* agents though may not have equivalent term in the modern medical parlance, it can be equated with drugs producing anabolic effect. There is a hypothesis that *Rasayana* drugs shows its effect of rejuvenation by its ability to build up the worn out tissue and replenish the nutritional deficient states. Thus *Rasayana* drugs may augment the formation of body tissues (*Dhatuwardhaka*) by supplementing the anabolic metabolism.

DISCUSSION

Rasayana is a science of nutrition. It provides nourishment to all the seven *Dhatu*s. It is not only a drug therapy but is a specialized procedure practiced in the form of rejuvenation recipes, dietary regimen and special health promoting conduct and behaviour. General properties of *Rasayana* are to preserve longevity of life, to increase intelligence and intellectual skills, to improve luster-aura of body and augment voice quality. It also enriches body with a great strength and ensures proper functioning of various sense organ systems. The *Rasayana* therapy has to be practiced with a number of prerequisites such as *Vaya* (age), *Prakriti* (constitution), *Satamy*a (adaptability), and the status of the *Dosh*as, *Dhatu*s, *Agni*, *Ojas*, *Srotas*, *Satva*, type of disease and *Bala* of a person. *Samshodhana Karma* has been advocated as an important preparatory measure before administration of *Rasayana* therapy as it helps in elimination of *Dosh*as which leads to proper purification of the body at the cellular level. At this level, absorption and metabolism is improved which leads to faster and optimum action of the drugs on the body.

Rasayana agent may promote nutrition through one of the following modes as explained below

1. By direct enrichment of the nutritional quality of *Rasa* (*Poshaka Rasa*) i.e. the nutrient plasma. Eg. *Shatavari*, *Dugadha*, *Ghrita*
2. By promoting nutrition through improved *Agni* i.e. digestion and metabolism. Eg. *Bhallataka*.
3. By promoting the competency of *Srotas* i.e. the micro circulatory channels in the body leading to better bio availability of nutrition to the tissues perfusion. Eg. *Gugglu*, *Pippali*.

Rasayana appears to have been practiced as an important speciality aiming at rejuvenation, geriatric care, mental competence and boost immunity to possess a long and healthy life. Thus it is the key for maintaining positive health and longevity. During *Rasayana* therapy, a person must follow the *Aahara*, *Vihara*, *Pathya*, *Apathya*, *Dinacharya* and *Ritucharya* as mentioned in the classical texts of *Ayurveda* to attain the maximum benefits of *Rasayana* therapy.

CONCLUSION

Rasayana is a regimen or the substance with the help of which one can attain, metabolize and channelize the better quality of *Rasa Dhatu* and other *Dhatu*s up to the smallest unit of the body. It provides nourishment to all the seven *Dhatu*s. If a person uses *Rasayana* according to *Ayurveda*, one can live long, healthy life free from ailments, attain physical and mental strength, retards the process of ageing and there will be longer life expectancy. To attain the maximum benefits of *Rasayana* therapy, a person must follow the *Aahara*, *Vihara*, *Pathya*, *Apathya*, *Dinacharya* and *Ritucharya* as mentioned in the classical texts of *Ayurveda* during *Rasayana* therapy.

REFERENCES

1. Charaka Samhita of Agnivesha, revised by Charaka and Dridhabala. Hindi Commentary ‘Vidyotani’ by Kasinatha Shastri and Gorakha Nath Chaturvedi, Vol- 1, Sutrasthana, Chapter 30, Verse 26, Chaukhambha Bharti Academy, Varanasi, Reprint Edition, 2014.
2. Sushruta Samhita of Maharishi Sushruta, Hindi Commentary ‘Ayurveda Tattva Sandipika’ by Kaviraja Ambikadutta Shastri, Vol – 1, Sutrasthana, Chapter 14, Verse 13, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition, 2010.
3. Charaka Samhita of Agnivesha, revised by Charaka and Dridhabala. Hindi Commentary ‘Vidyotani’ by Kasinatha Shastri and Gorakha Nath Chaturvedi, Vol- II, Chikitsasthana, Chapter 1, Pada – 1, Verse 8, Chaukhambha Bharti Academy, Varanasi, Reprint Edition, 2014.
4. Sushruta Samhita of Maharishi Sushruta, Hindi Commentary ‘Ayurveda Tattva Sandipika’ by Kaviraja Ambikadutta Shastri, Vol – 1, Sutrasthana, Chapter 1, Verse 15, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition, 2010.
5. Sharangadhara Samhita: Sharangdhar. Hindi Commentary by Dr. Shailaja Srivastava, Purvakhanda, Chapter 4, Verse 14, Chaukhambha Orientalia, Varanasi, Reprint Edition, 2017.
6. Charaka Samhita of Agnivesha, revised by Charaka and Dridhabala. Hindi Commentary ‘Vidyotani’ by Kasinatha Shastri and Gorakha Nath Chaturvedi, Vol- II, Chikitsasthana, Chapter 1, Pada – 1, Verse 16, Chaukhambha Bharti Academy, Varanasi, Reprint Edition, 2014.

7. Kaya Chikitsa: Prof. Ajay Kumar Sharma, Part – IV, Page 322, Chaukhambha Publishers, Varanasi, Reprint Edition, 2014.
8. Kaya Chikitsa: Prof. Ajay Kumar Sharma, Part – IV, Page 325, Chaukhambha Publishers, Varanasi, Reprint Edition, 2014.
9. Kaya Chikitsa: Prof. Ajay Kumar Sharma, Part – IV, page 324, Chaukhambha Publishers, Varanasi, Reprint Edition, 2014.
10. Kaya Chikitsa: Prof. Ajay Kumar Sharma, Part – IV, Page 333, Chaukhambha Publishers, Varanasi, Reprint Edition, 2014.
11. Kaya Chikitsa: Prof. Ajay Kumar Sharma, Part – IV, Page 334, Chaukhambha Publishers, Varanasi, Reprint Edition, 2014.
12. Sharangadhara Samhita: Sharangdhar. Hindi Commentary by Dr. Shailaja Srivastava, Purvakhand, Chapter 6, Verse 19, Chaukhambha Orientalia, Varanasi, Reprint Edition, 2017.
13. Kaya Chikitsa: Prof. Ajay Kumar Sharma, Part – IV, Page – 333, Chaukhambha Publishers, Varanasi, Reprint Edition, 2014.
14. Sushruta Samhita of Maharishi Sushruta, Hindi Commentary ‘Ayurveda Tattva Sandipika’ by Kaviraja Ambikadutta Shastri, Vol – 1, Chikitsasthana, Chapter 27, Verse 4, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition, 2010.
15. Charaka Samhita of Agnivesha, revised by Charaka and Dridhabala. Hindi Commentary ‘Vidyotani’ by Kasinatha Shastri and Gorakha Nath Chaturvedi, Vol- II, Chikitsasthana, Chapter 1, Pada – 4, Verse 27, Chaukhambha Bharti Academy, Varanasi, Reprint Edition, 2014.
16. Sushruta Samhita of Maharishi Sushruta, Hindi Commentary ‘Ayurveda Tattva Sandipika’ by Kaviraja Ambikadutta Shastri, Vol – 1, Chikitsasthana, Chapter 27, Verse 3, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition, 2010.
17. Sushruta Samhita of Maharishi Sushruta, Hindi Commentary ‘Ayurveda Tattva Sandipika’ by Kaviraja Ambikadutta Shastri, Vol – 1, Chikitsasthana, Chapter 30, Verse 4, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition, 2010.
18. Sushruta Samhita of Maharishi Sushruta, Hindi Commentary ‘Ayurveda Tattva Sandipika’ by Kaviraja Ambikadutta Shastri, Vol – 1, Chikitsasthana, Chapter 30, Verse 4, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition, 2010.
19. Charaka Samhita of Agnivesha, revised by Charaka and Dridhabala. Hindi Commentary ‘Vidyotani’ by Kasinatha Shastri and Gorakha Nath Chaturvedi, Vol- II, Chikitsasthana, Chapter 1, Pada – 1, Verse 7-8, Chaukhambha Bharti Academy, Varanasi, Reprint Edition, 2014.
20. Charaka Samhita of Agnivesha, revised by Charaka and Dridhabala. Hindi Commentary ‘Vidyotani’ by Kasinatha Shastri and Gorakha Nath Chaturvedi, Vol- II, Chikitsasthana, Chapter 1, Pada – 1, Verse 72, Chaukhambha Bharti Academy, Varanasi, Reprint Edition, 2014.