

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Review Article ISSN 2455-3301 WJPMR

COMPREHENSIVE INSIGHT INTO THE CONCEPT AND MANAGEMENT OF JANAPADODHWAMSA

Dr. Alok Kumar Sharma¹*, Dr. Tejas Mishra², Dr. Mohd. Monish³ and Dr. Apoorv Tripathi⁴

^{1,3}P.G. Schlolar, Department of Kaya Chikitsa, Quadra Institute of Ayurveda Roorkee.
²P.G. Schlolar, Department of Shalya Tantra, Quadra Institute of Ayurveda Roorkee.
⁴BAMS Motherhood Ayurvedic Medical Collage.



*Corresponding Author: Dr. Alok Kumar Sharma

P.G. Schlolar, Department of Kaya Chikitsa, Quadra Institute of Ayurveda Roorkee.

Article Received on 25/04/2025

Article Revised on 15/05/2025

Article Accepted on 03/06/2025

ABSTRACT

Ayurveda, one of the most ancient and effective healthcare systems, describes the concept of Janapadodhwamsa, which refers to the large-scale destruction of populations. This occurs due to the disturbance of four key environmental factors—Vayu (air), Udaka (water), Desha (region), and Kaala (season/time)—which, when vitiated, lead to environmental disasters and the spread of communicable diseases. These diseases are primarily rooted in Adharma (unrighteousness), stemming from Prajnaparadha (intellectual errors). Contributing factors include low socioeconomic status, overpopulation, and poor hygiene. Ayurveda emphasizes building immunity through both preventive and therapeutic methods. This is accomplished through timely implementation of Shodhana (purification) and Shamana (palliation) therapies. Adopting a proper lifestyle—incorporating Sadavrutta (ethical conduct), Dinacharya (daily routine), Rutucharya (seasonal regimen), Panchakarma (detoxification procedures), and Rasayana (rejuvenation therapy)—serves as an effective strategy for managing epidemics or Janapadodhwamsa-type diseases.

INTRODUCTION

The term Janapadodhwamsa originates from the Sanskrit words "Janapada" meaning a large population and "Udhwamsa" meaning destruction. There are two primary causes for the widespread devastation of populations: Asadharana hetu and Sadharana hetu. Asadharana hetus are individual-specific factors, while Sadharana hetus refer to universal factors such as the vitiation of air, water, land, and seasons.^[1] This environmental imbalance is often a result of human misconduct or Prajnaparadha, leading to the emergence and spread of infectious diseases that can cause largescale mortality. The ancient Ayurvedic sages (Acharyas) have extensively described the nature and transmission of such communicable diseases. Therefore, understanding both preventive and curative treatment strategies is crucial.^[2] The primary approach to managing Janapadodhwamsakara Vyadhis (epidemic diseases) begins with Panchakarma, which offers three major benefits: Malapaham (removal of toxins for prevention), Rogaharam (curing diseases), and Bala Varna Prasadanam (enhancement of strength and complexion through rejuvenation). This paper focuses on exploring the Ayurvedic perspective of communicable diseases and emphasizes the significance of various treatment principles for managing Janapadodhwamsakara Vyadhis.

LITERARY REVIEW

Different ancient Ayurvedic scholars (Acharyas) have used various terms for Janapadodhwamsa. Acharya Sushruta referred to it as Maraka (a destructive condition) and stressed the importance of using herbs (Aushadh) and water (Jala) that are unaffected or collected before the onset of the calamity.^[3]

Acharya Bhela used the term Janamaar and emphasized practices such as limited eating (Mitt Bhoji), maintaining self-discipline (Dhritiman), and the use of mantras and medicines, along with respectful conduct towards Brahmins, to prevent such outbreaks.^[4]

Similarly, Acharya Kashyapa mentioned diseases that affect specific populations (Janapad vishesha), further elaborating on the concept.^[5]

LOCATION OF SAMBHASHA (DISCUSSION)

In summer weather, forest area near the banks of Ganga at Kampilya, capital city of Panchalaregion (i.e today Kampilyais Farukhabad district in UP of India), which was the residence of the Dwija(elite of the twice born communities like brahmins). In this place Punarvasu Atreya speak to his disciple Agnivesha.^[6]

ORIGN OF JANAPADODHWAMSA

Acharya Charaka identifies Adharma (immorality) as the primary cause of Janapadodhwamsa (mass destruction). Adharma, the opposite of Dharma, refers to unethical, unrighteous behavior and the breakdown of moral values within a society. Such disharmony and immoral conduct among people are believed to stem from Pragyaparadha-the misuse or failure of wisdom. According to Ayurveda, Asatmyendriyartha Samyoga (improper contact of senses with their objects), Pragyaparadha (intellectual blunder), and Parinama (effects of time) are the three major causes of disease.^[7]

Pragyaparadha is formed from "Pragya" (which includes Dhee - intellect, Dhriti - restraint, and Smriti - memory) and "Aparadha" (offense or mistake). When these three mental faculties are impaired, individuals engage in Ashubha Karma (unwholesome actions), which leads to the disturbance of all Doshas (bodily humors) and ultimately results in disease.^[8,9] Pragyaparadha is considered responsible not only for physical ailments but also for Aagantuka (external) and Manasika (mental) disorders.^[10]

Charaka further explains that Lobha (greed) is a key driver of Adharma. He also attributes other causes such as Bhutasangha (contact with harmful organisms) and Abhishapa (curses) to Adharma.^[11] Along with greed, emotions like Abhidroha (hostility) and Kopa (anger) are mentioned as contributing factors for the onset of eight major diseases.^[12]

Acharya Sushruta describes the cause of Maraka (mass fatality events) as Adrishta—an unseen or idiopathic factor. His commentator, Dalhana, interprets this as the result of Adharma prevalent in the population of that region. Additionally, changes in seasons (Ritu Vyapad) can also occur due to supernatural causes like Abhishapa (curses) and Rakshokrodha (wrath of demonic forces).^[13]

EXPLANATION

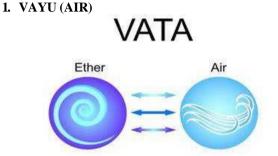
After properly collection of drugs Agniveshaask question to Acharya Punarvasu Atrevathat "How does the of communities simultaneous destruction or Janapadodhvamsatake place by the incidence of only single disease, in spite of individuals who differ from one another in their constitution (Prakriti), diet (Aahara), physique (Deha), vitality (Bala), habits (Satmaya), psychic make up (Satva), and age (Vaya)?". Acharya PunarvasuAtreya explained to Agniveshathat although a community may be dissimilar with respect to the constitution and other characteristics of its individuals but here are some common factors which often get adversely affected, resulting in outbreak of diseases having similar symptoms that destroy communities i.e Samanya Tat Vaigunyaat Samankaala Samanalinghacha Vyadhyorabhinirvrittamana Janapadam Udwansayati.^[14]

The common factors which affect mass population are Vayu (air), Udaka (water), Desha (land) and Kaala(season).

FEATURES OF JANAPADODHWAMSA

In Janapadodhwamsa, mainly the said four factors are affected and results in mass annihilation. Acharya Charaka has described Vikritalakshanas(altered characteristics) of the said factors are as follows.^[15]

Table 1: Characteristics of Dushit (polluted) Vayu(air), Udaka (Water), Desha (Land) and Kaala(Season).



VIKRITA LAKSHANA (ALTERED CHARACTERISTICS)

- 1. Vishama(absence of features in accordance with season)
- 2. Atistimita(excessive calm)
- 3. Atichalam(excessive violent)
- 4. Atiparusha(excessive rough)
- 5. Atishita(extreme cold)
- 6. Atyushna (extreme hot)
- 7. Atiruksha(excessive dry)
- 8. Atyabhishyandi(excessive humid)
- 9. Atibhairavaravam(wind blowing with excessive sound)
- 10. Atipratihataparaspargati(collliding in nature)
- 11. Atikundalinam(excessively cyclonic)
- 12. Asatmaygandhavashpasiktapanshudhumophatamiti (wind with unwholesome smell, mixed with gases, sand, ashes and smoke)

2. JALA (WATER)



VIKRITA LAKSHANA (ALTERED CHARACTERISTICS)

- 1. Vikrutgandhavarnarasasparsa(Abnormal smell, colour, taste and touch)
- 2. Kledabahula(excessive stickiness)
- 3. Jalcharavihangam(water bodies is devoid of aquatic animals like fishes etc.)
- 4. Upkshinamjaleshaya(reduced water levels in lakes

and ponds)

- 5. Apritikaram(unpleasant appearance or taste)
- 6. Upgatagunam(devoid of natural qualities)

3. DESHA (LAND)



VIKRITA LAKSHANA (ALTERED CHARACTERISTICS)

- 1. Vikrutgandhavarnarasasparsa(Abnormal smell, colour, taste and touch)
- 2. Kledabahula(excessive stickiness)
- 3. Abundance of serpents, wild animals, mosquitos, locusts, flies, rats, owls, vulture and jackals
- 4. Pratanaadibahulam(excessive orchard with grass, weeds and creepers)
- 5. Atishukshanastashasyam(extremely dried land with destroyed crops)
- 6. Dhumrapawanam(abundance of smoke in air)
- 7. Suffering of different animals and birds due due to bewilderment and agony.
- 8. Land where religion, truth, modesty, manners, conducts and other qualities of the inhabitants are absent.
- 9. Kshubhitudirnajalashayam(disturbed and turbulent water bodies)
- 10. Pratataulkapatanighatabhumikampa(Frequent occurrence of meteorites, thunderbolts and earthquakes.
- 11. Atibhayavaramroopam(hearing of fearful sounds)
- 12. Sun, moon and stars appears as they are covered with coppery, reddish-brown and whitish coloured clouds.
- 13. people living on the land appears as confused, bewildered, agitated, sorrowful, frightened etc

4 Kaala (SEASON)



VIKRITA LAKSHANA (ALTERED CHARACTERISTICS)

1. Features opposite, excessive or less to the features of normal course of season

SHUSRUTA SAMHITA NIDANA STHANA CHAPTER – 5

"प्रसंगाद्रात्रसंस्पर्शान्निश्वासात्सहभोजनात्

सहशख्याउउसनाच्चापिवस्त्रमाल्यानुलेपनाता (सु-नि.५[३२)

Acharya Shusruta (The Father of Surgery) has explained Aupasargik Rogas. Aupasargikadiaseases are communicable diseases that spread through direct contact or contaminated objects of patient.

By physical contact, expired air, eating with others by sharing plates, sharing bed, clothes and cosmetics spread the communicable diseases from one person to other person. Here according to Acharya Dalhana Prasangaat means excessively and frequently if these activities are performed.^[16]

JANAPADODHVAMSAKARA BHAVA (MOST DANGEROUS BHAVA)

Impairment of Vayu (air), Udaka (water), Desha (land) and Kaala (season) are more lethal in their increasing order. Kaala impairment is most dangerous. The wise man should know that "GariyaParamIti" water is more important than air, land is more important than water and Kaala is yet more important than Desha by virtue of their degree of indispensability.^[17]

GENERAL TREATMENT JANAPADODHVAMSA

विगुणेष्वपिखल्वेतेषुजनपदोद्ध्वंसकरेषुभावेषुभेषजेनोपपाध्यमाना

नामाभयंभवतियोगेभ्यइति]" च.वि.३/८ [18]

येषांनमृत्युसामान्यंसामान्यंनचकर्मणाम्

कर्मफनचविधंतेषांभेषजंपरमुयते।

रसायनानाम्विधिवच्चोपयोगःप्रशस्यते।

शस्यतेदेहवृत्तिश्चिभेषजै:पूर्वमुदधृतै:।च.वि.313-14 [17]

Even when all four environmental factors—Vayu (air), Udaka (water), Desha (land), and Kaala (season)—are vitiated, individuals may still remain unaffected by disease if they are provided with appropriate and timely medicines that have been collected and prepared in advance.

Effective management of Janapadodhwamsa (communicable diseases) includes the use of Panchakarma therapies and the proper administration of Rasayana treatments. Importantly, medicinal herbs should be gathered before the disease outbreak occurs in that area.

In addition to medical treatment, spiritual and moral practices also play a significant role in disease prevention. These include Satyabhuta (truthfulness), Bhoota Daya (compassion towards all living beings), Dana (charity), Bali (sacrificial offerings), Devatarchana (worship of deities), and the observance of Sadvritta (ethical conduct). Protective measures such as chanting mantras, devotion to God (Shivanam Upasevanam), serving emulating those who observe and Brahmacharya (celibacy), engaging in discussions on Dharmashastras (religious texts), forming associations with sages (Maharishis), and being in the company of controlled, righteous (Dharmika), selfvirtuous (Satvika), and wise individuals are also emphasized.

These practices, when followed during times of widespread disease, can effectively protect individuals unless their death is already predestined (Yesham Na Mrityu Saamnyam). Similarly, Acharya Sushruta advises the use of pure water and medicines gathered before the onset of epidemics during situations like Maraka (mass fatality events).

IMPORTANCE OF RASAYANA

Saveral Rasayana botanicals described in Ayurveda are used in clinical practice for strengthening immunity. Based on our research data, we find Ashwagandha (Withaniasomnifera), Guduchi (Tinosporacordifolia), Shatavari (Asparagus racemosus), Amalaki (Phylanthusembelica), Yashtimadhu and (Glycerizaglabra) are potential immunomodulators. According to kalpadruma Rasayanameans rasaraktadidhatus (the seven basic tissues) reaches their proper destination or the process which help in propernourishment of tissues by poshaka rasa. According to Sushruta, Rasavanatantraincludes different steps ofdelaying aging process, increases longevity, and intelligence and provide disease resistant power to theindividual.^[19] According to CharakaRasayanais themethod to produce the dhathus of optimum quality. According to Sharangadhara, Rasayanatreatment is one which result in the prevention of diseases due to old age.^[20]

DHUPANA KARMA (Fumigation)

In ancient times—and continuing even today—Yagya (sacrificial rituals) have been performed for the welfare of the masses, promoting collective hygiene and health. This practice is also referenced in Ayurvedic texts in the context of Janapadodhwamsa (widespread epidemics). In Kashyap Samhita, two types of fumigation are described: Raksoghna Dhupana for protection against infections, and Gana Dhupana for treating diseases caused by Bhuta (microorganisms).^[21]

Both Charaka Samhita and Sushruta Samhita detail various medicinal substances used in Dhupana Karma for different ailments. Some of the commonly used herbs include Guggulu (Commiphora mukul), Nimba (Azadirachta indica), Vacha (Acorus calamus), Kuth (Saussurea lappa), Haritaki (Terminalia chebula), Sarsapa (Brassica campestris), and Yava (Hordeum vulgare), often combined with Ghrita (clarified butter).^[22]

In Sushruta Samhita, specific Raksoghna (germicidal) substances like Sarsapa, Nimba, and Lavana mixed with Ghrita are recommended for fumigation twice daily over a period of 10 days. These substances are believed to effectively eliminate harmful microbes and purify the environment.^[23]

VAAD CHIKITSA (SOUND THERAPY)

Acharya Sushrutasaid that if food is contaminated with poison, then different symptoms arises due to that poison and to treat them apply different pastes on various types of instruments and produce sound from them.

'तारःसुतारःससुन्द्रगोपःसवैश्ष्तुल्यःकुरविन्दभागः॥

पित्तेनयुक्तःकपिलान्वयेनवाद्यप्रलेपोविहितःप्रशस्तः।

वाधस्यशब्देनहियानितिनाशंविषाणिधोयण्यपियानिसन्ति।.CH.V.3/13-14

Equal parts of each of these contents Taar (Silver), Sutaar (Mercury), Suvarna (Gold), Saariva and Kuruvind (A kind of Precious stone or Mustai. ecyperus) total of above four dravya, these should be mixed with Pitta of cow of Kapila Varna (color). This paste should be applied on sound producing instruments. As from the sound of instruments GhorVisha will be destroyed.^[24]

NASYA (Nasal Therapy)

Ayurveda advocates the use of medicated oils like Anu Taila and Shadbindu Taila applied into the nostrils, a procedure known as Nasya. This practice is believed to help protect the respiratory system by preventing the entry of pathogens. Nasya is thoroughly described in classical Ayurvedic texts. The use of pure sesame oil has also shown effectiveness in relieving dryness of the nasal mucosa. Much like Kavala (gargling) and Gandusha (oil pulling), applying oil to the nasal passages may create a protective biofilm, acting as a physical barrier against virus particles.

OTHER TREATMENTS

Steam inhalation and hot fomentation (with aromatic oils such as menthol) provide satisfactory clinical relief in nasal and throat congestion, bronchoconstriction, headache, and sinusitis. Its role in improving nasal conditioning, improving nasal mucus velocity, and reducing congestion and inflammation has been reported in several clinical studies. Ayurveda advocates several non-pharmacological measures that are critical to overall health, including diet, sleep, mental relaxation, lifestyle behavior, and Yoga. Several studies have endorsed the role of pranayama (Yoga breathing techniques), asanas(postures), and yogic kriyaprocedures in improving lung health and exercise tolerance. The recommended daily diet includes fresh hot soups of vegetables (radish, trigonella leaves, drum stick vegetable pods) and pulses (lentils, green gram/mung beans, chickpeas) seasoned with spices such as Mulaka

(Zingiberofficinale), Lahsun (Allium sativum), Ajwaain (Cuminumcyminum), and Sharshapa (Brassica nigra).

DISCUSSION

To lead a healthy and joyful life, one must consistently follow the preventive guidelines outlined in Ritucharya Adhyaya (seasonal regimen) as described in Ayurveda to guard against diseases. Acharya Charaka classified the causes of diseases into two main categories: Niyata Hetu (predictable causes) and Aniyata Hetu (unpredictable causes). Nivata Hetu includes natural phenomena that affect entire communities, such as solar and lunar influences. planetary effects, floods, cyclones. earthquakes, landslides, and tsunamis. On the other hand, Aniyata Hetu refers to unpredictable factors such as Prajnaparadha (deliberate wrongdoing, e.g., war or terrorism), Shastra Prabhavaja (destruction from weapons like nuclear or biological arms), Abhisyangaja (infections, poor hygiene, or harmful forces), and Abhishapaja (curses). These factors can cause large-scale outbreaks of communicable diseases, known in Ayurveda as Janapadodhwamsa Rogas.^[25]

Charaka identifies three methods to manage and prevent such disease outbreaks: Apakarshana (elimination of harmful elements), Prakriti Vighata (counteracting the disease's nature), and Nidana Parivarjana (avoiding the root cause). Acharya Sushruta emphasized that avoiding causative factors is the fundamental step in disease prevention, which he described as "Samkshepatah Krivayogo Nidana Parivarjanam." То prevent Janapadodhwamsa, therapies such as Rasavana. Panchakarma, following Sadvritta (ethical conduct), and practicing Achara Rasayana (behavioral discipline) are recommended.^[26]

CONCLUSION

The primary goal of Ayurveda is Swasthasya Swasthya Rakshanam, meaning to maintain the health of healthy individuals. Prevention remains the most effective Aupsargika approach for avoiding Vyadhi (communicable diseases), including those categorized under Janapadodhwamsa. Preventive measures such as Rasayana therapy, Panchakarma procedures, adherence to Sadvritta (ethical lifestyle), Achara Rasayana (behavioral practices), and Homa (ritual offerings or Yagya) are recommended. Incorporating Ayurvedic principles of diet, lifestyle, detoxification, and rejuvenation can significantly aid in the prevention and management of disease outbreaks. However, more scientific research is needed to validate and support the effectiveness of Ayurvedic strategies in epidemic and pandemic scenarios.

REFERENCES

 Agnivesha, Charaka, Chakrapanidatta, Vimanasthana, Chapter Janapadodhwamsiya vimana, Verse 6, In YT Acharya (Edi.). Reprint Edition 2015, Varanasi Chaukambha Orientalia, p.241.

- 2. Agnivesha, Charaka, Chakrapanidatta, Vimanasthana, Chapter Janapadodhwamsiya vimana, Verse 12-18, In YT Acharya (Edi.). Reprint Edition 2015, Varanasi Chaukambha Orientalia, p.241-42.
- 3. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Sutra sthana Chapter 6 Sloka no.19, Page No. 30.
- 4. Illustrated Bhela Samhita, (2017) translated by Shri AbhayKatyayana, Published by ChaukhambhaSurbharti Publication, Sutrasthana Chapter 13 Sloka no.9, page no. 76.
- Illustrated Kashyapa Samhita, (1998) translated by NepalrajguruPanditHemrajsharmaevam Shri Satyapalbhishagacharya, Published by Chaukhambha Sanskrit sansthana. KhilaSthana Chapter 25 Sloka no.7-10, Page No. 364.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, VimanaSthana Chapter 3 Sloka no.3, Page No. 691.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, Sutra Sthana Chapter 11 Sloka no. 43, Page No. 233.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, ShariraSthana Chapter 1 Sloka no.102, Page No. 824.
- 9. PatilAsmita, The Concept of Pragyapradh With Respect To The Factors That Cause Life- Style Disorders. International Ayurvedic Medical Journal[ONLINE]. 2019; 7(1): 111-114.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, Sutra Sthana Chapter 7 Sloka no.52, Page No. 170.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, VimanaSthana Chapter 3 Sloka no.22-23, Page No. 696.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, NidanaSthana Chapter 1 Sloka no.15, Page No. 609.
- 13. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Sutra sthana Chapter 6 Sloka no.18, 21, Page No. 30.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, VimanaSthana Chapter 3 Sloka no.6, Page No. 692.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. Gorakhnatha Chaturvedi, Published by Chaukhambha Bharti Academy,

VimanaSthana Chapter 3 Sloka no.6-1,2,3,4, Page No. 693.

- 16. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Nidanasthana Chapter 5 Sloka no.32, Page No. 325.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, [VimanaSthana Chapter 3 Sloka no.9-10, Page No. 694.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, VimanaSthana Chapter 3 Sloka no.8, Page No. 694.
- Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, VimanaSthana Chapter 3 Sloka no.13-14, Page No. 694.
- 20. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Sutra sthana Chapter 6 Sloka no.20, Page No. 30.
- 21. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Sutra sthana Chapter 1 Sloka no.15, Page No. 6.
- 22. Illustrated Sharangadhara Samhita, (2009) translated by Dr. ShrimatiShailjaShrivastava, Published by ChaukhambhaOreantalia Bharti Academy, Purvakhanda, Chapter 4 Sloka no.14, Page No. 33.
- 23. Illustrated Kashyapa Samhita, (1998) translated byNepalrajguruPanditHemrajsharmaevam Shri Satyapalbhishagacharya, Published by Chaukhambha Sanskrit sansthana. KalpSthana Chapter 1, Page No. 170-173.
- 24. Illustrated Charaka Samhita, (2015) translated by Pt. KashinathShastri and Dr. GorakhnathaChaturvedi, Published by Chaukhambha Bharti Academy, ChikitsaSthana Chapter 3 Sloka no.176, 307-308, Page No. 144, 170.
- 25. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Sutra sthanam Chapter 19 Sloka no.28, Page No. 105.
- 26. Illustrated Sushruta Samhita, (2014) translated by KavirajaAmbika Dutta Shastri, Published by Chaukhambha Sanskrit Sansthana, Kalpasthana Chapter 3 Sloka no.13-15, Page No. 40.