

## UNDERSTANDING PATHOLOGY OF ANIDRA FROM AYURVEDA POINT OF VIEW: A REVIEW ARTICLE

<sup>\*1</sup>Dr. Manjusha Laxmanrao Bhiodare and <sup>1</sup>Dr. Sachin S. Chandaliya

<sup>1</sup>PG Scholar, M.D. Panchakarma, Shri Ayurved Mahavidyalaya, Nagpur.

<sup>1</sup>M.D. (Panchkarma), Professor & Head of Department, Department of Panchakarma  
Shree Ayurved Mahavidyalaya, Nagpur.

Article Received on  
10 May 2022,

Revised on 31 May 2022,  
Accepted on 21 June 2022

DOI: 10.20959/wjpr20229-24640

### \*Corresponding Author

**Dr. Manjusha Laxmanrao  
Bhiodare**

PG Scholar, M.D.

Panchakarma, Shri Ayurved  
Mahavidyalaya, Nagpur.

### ABSTRACT

Ayurveda is a holistic life science. In *ayurveda ahar, nidra* and *brahmacharya* is mentioned as tripod of life by *Acharyas*. *Nidra* considered as one of the basic instinct of life which is essential for maintaining health. But due to some reasons like modern lifestyle, work stress, older age, disease related pain, mental illness, night job shift, anxiety and some *doshas* like *vata* and *pitta* etc. are responsible for *Anidra*. A condition where the sufferer complains of loss of *nidra* (sleep) during its natural time i.e. *ratri* (night) is called *Anidra*. *Vatavruddhi* plays a key role in producing *Anidra*. In *Anidra* some symptoms occur like yawning, drowsiness, malaise, fatigue, lack of concentration, poor memory. When our mind gets disturbed due to any

thought, it increases *Rajo Guna* which closely resembles with the *Vata Dosha*. Hence increase in *Rajo Guna* ultimately increases *Vata Dosha* & diminishes the effect of *Tamo Guna* ultimately landing the person in *Anidra*. On the basis of this an attempt is made to understand the pathology of *Anidra* through an *ayurvedic* perspective.

**KEYWORDS:** *Anidra, Insomnia, Vatavruddhi, Sleep, Nidra.*

### INTRODUCTION

*Ayurveda* mentioned *ahara* (food) *svapna* (sleep) and *abrahmacharya* (indulgence in sex) are the three pillars (of life). Supported by these three pillars, the body maintains its strength, color (complexion) and growth till the end of life.<sup>[1]</sup>

when mind is, exhausted and the exhausted sense organ distracts from its object one gets sleep.<sup>[2]</sup>

*Acharya Sushruta* says that *nidranasha* occurs due to aggression of *vata* and *pitta*, psychological disorders, extreme weakness or ill health and physical trauma.<sup>[3]</sup>

During the description of *nidra*, *acharyas* have mentioned that *sharirikadosha kapha*, *manasikadoshatama*, *chetanasthanahruday*(heart), *mana* and *sanjnavaha strotasa* are responsible for its production. hence it is evidence that the *vatadosha*, *pitta dosha*, *rajoguna*, *hruday*, *mana* and *sanjnavaha strotasa* play an important role in the formation of *samprapti* or pathogenesis of *Anidra*. Thus vitiation of these factors leads to the disease of *anidra*.<sup>[4]</sup>

### Importance/Benefits of *nidra*

Happiness, misery, nourishment, emaciation, strength, weakness, virility, sterility, knowledge, ignorance, life and death all these occur depending on the proper or improper sleep.<sup>[5]</sup>

Like the night of destructions, untimely and excessive sleep and prolonged vigil take away both happiness and longevity.<sup>[5]</sup>

The same sleep, if properly enjoyed brings about happiness and longevity in human beings as the real knowledge brings about *Siddhi* (spiritual power) in a *yogin*.<sup>[5]</sup>

Strength and misery, nourishment and emaciation (increase or decrease of the body), strength and debility, virility and impotence, knowledge and ignorance, life and death are all dependent upon sleep.<sup>[6]</sup>

### Physiology of *Nidra*

*Nidra* is considered as one of the important *vega*, i.e. physiological urge.

One should not suppress the natural urge relating to urine, feces, semen, flatus, vomiting, sneezing, eructation, yawning, hunger, thirst, tears, sleep and breathing caused by over exertion.<sup>[7]</sup>

Heart is a site of *rasa*, path of *vata* etc, mind, *buddhi*, *indriya*, *atma* and *par oja*.<sup>[8]</sup>

When the mind including sensory and motor organs is exhausted and they dissociate themselves from their objects, then the individual sleeps. When the mind (as well as the soul)

gets exhausted or become inactive and the sensory and motor organs become inactive then the individual gets sleep.<sup>[9]</sup>

Sleep is nothing but the location of the mind in a place unconnected with the sensory or motor organs.

In the event of the exhaustion of the mind, the individuals also get exhausted because action of individuals is dependent on that of the mind, so when mind dissociates itself from its objects, individuals also dissociate themselves from their objects.

The sensory and motor organs are not active because of the inaction of individuals.<sup>[9]</sup>

*Tamoguna* of mind helps in creating sleep.<sup>[10]</sup> *hruday* is a seat of *chetana* in living beings, when this is invaded by *tamoguna* person gets sleep.<sup>[11]</sup>

It is associated with *kaphadosha* and helps in generation of sleep.<sup>[12]</sup>

Sleep was born out of *tamas*, at the time of commencement of this creation, it is another form of *tamas* itself and manifests when *tamas* is predominant, generally at nights.<sup>[13]</sup>

When the *srotas* (tissues pores, channels etc.) of the body become covered (coated and obstructed) by *kapha*, when the body is fatigued by exertion and when the sense organs are not functioning, sleep manifests in the body.<sup>[14]</sup>

### ***kaphaprakopak* causes and Aggravation**

*kapha* aggravated day sleep. That means, the properties aggravated by day sleep are similar to those of *kapha*.<sup>[15]</sup>

### **Contributing factors in *Nidra***

#### **1. Role of Mind**

Mind also play an important role in the loss of sleep. When our mind gets disturbed due to any thought, it increases *Rajo Guna* which closely resembles with the *Vata Dosha*. Hence increase in *Rajo Guna* ultimately increases *Vata Dosha* & diminishes the effect of *Tamo Guna* ultimately landing the person in insomnia.<sup>[16]</sup>

Mind, on the other hand, transcends all sense perception. It is known as '*sattva*'; some call it '*chetas*'. Its action is determined by its contact with its objects (like happiness, misery etc;) and the soul; this acts as a driving force for all the sense faculties.<sup>[17]</sup>

Mind transcends all the sense faculties which are responsible for the perception of external objects.

Even though, mind is also to be regarded as a sense faculty in as much as it is responsible for experiencing happiness etc; still it is above the other sense faculties.

Rather, mind acts as a controller of all the other sense faculties. So far as its transcendental qualities are concerned, they are even attributed to other sense faculties; but they are more so in relation to the mind which is much more subtle than the other sense faculties.<sup>[17]</sup>

The objects motivate the mind by their proximity. This motivation further depends upon the existence of the sensing soul. It is the soul which is in fact responsible for the experience of happiness etc., and psychic behavior. To sum up it is only when the objects like happiness etc present and the soul is active, the mind conceives its objects and motivates the sense faculties, and then the sense faculties are active in relation to their respective objects.<sup>[17]</sup>

## 2. Role of *Indriyas*

The sense faculties are capable of perceiving their respective objects only when they are motivated by the mind.<sup>[18]</sup>

## 3. Role of *Vata* (types of *vata* and their pathology in *avrutavata*)

### *Vayuksheena, pittasama, kaphavruddha-*

When *vata* is in the state of diminution, the *kapha* obstruct the path of *pitta* in normal condition causing thereby the weakness of the digestive power, stiffness of head, sleepiness, drowsiness, delirium, heart diseases, heaviness in the body, yellowness of the nails, etc. and expectoration of phlegm and bile.<sup>[19]</sup>

When *vata* gets provoked, one of the *vikaras* is called as "*asvapnah*" which means 'loss of sleep'.<sup>[20]</sup>

## 4. Role of *Prakruti*

*Prakruti* is supposed to be one of the deciding factors amongst all which influence the nature of *nidra* of the particular person. It is said that *vata prakruti* people are '*jagarukah*' means

they tend to remain awake for maximum time due to dominance of *ruksha* property of *vatadosha*.<sup>[21]</sup>

*Kapha prakruti* people are having the nature of *nidralu*.<sup>[22]</sup>

means these people tend to remain sleepy for maximum time. This characteristic might be attributed to *snigdha* property of *kaphaprakruti* the basis of dominance of *ruksha* property keeps the person awake.

## 5. Role of Rakta

*Hrudaya* (heart) is its seat (chief place of stay), from the heart it travels through the twenty four *dhamanis* (arteries); ten of them going upwards, ten going downwards and four going sideways/obliquely; nourishes the entire body constantly, makes it grow, supports and maintains by activities which are due to invisible causes.<sup>[23]</sup>

The decrease and increase of this '*rasa*' which is travelling all over the body (constantly) has to be inferred by the abnormalities produced.<sup>[23]</sup>

On this '*rasa*' which is moving in the entire body its different parts, organs, *doṣhas*, *dhatu*s, *malas* and viscera, there is a debate; Is this *saumya* (cold in properties and actions) or *taijasa* (hot in properties and actions) On this we say, since it is a liquid possessing properties such as unctuousness, enlivening (sustaining life), nourishing, supporting etc., it should be considered as *saumya* (cold in properties and actions) only.<sup>[23]</sup>

## 6. Role of various Dhatus in Nidra

(*asthimajjagatavata. asvapna*)

Aggravation of *vayu* in the bones and bone-marrow gives rise to the following signs:

- (1) Cracking of the bones and joints
- (2) Piercing pain in the joints
- (3) Diminution of muscle-tissue and strength
- (4) Insomnia; and
- (5) Constant pain.

Eventhough the aggravation of *vāyu*, both in the bones and bone marrow, are described above as a causative factor of similar signs and symptoms, the distinctive features of these two conditions are to be ascertained on the basis of the specific nature of these two types of tissue elements as described in Sutra.<sup>[24]</sup>

when *asthidhatu* decreases then *vata* gets increases because of *ashrayaashrayisambandh*.<sup>[25]</sup>

During this particular condition, increased or provoked *vata* gets lodged in *asthi* and *majja*. It causes excessive pain along with other symptoms. It is observed that in these patients, *nidra* gets hampered due to following reason.

**a. Severe pain disturbs the sleep(effect of Pain over sleep ..)**

Saper et al found that damage to the anterior hypothalamus caused severe insomnia. These findings suggest that the hypothalamus is involved in controlling both waking and sleeping states, as well as in the control of pain.

Hypothalamus and the basal forebrain generate non-REM sleep. It is pertinent that both of these areas contain active gamma aminobutyric acid (GABA)-ergic neurons, which have an important role in the control of pain and sleep. These GABAergic neurons are sensitive to changes in body temperature that trigger a “sleep switch” that turns sleep on and off. The pineal gland is regulated by the SCN (supra chiasmatic nucleus).<sup>[26]</sup>

**Thus, in *asthimajjagata vata* or any type of severe *vata prakopa*, the aggravated pain might be playing a role in disturbing the sleep and wake cycle.**

## 7. Role of *oja*

*Oja* is *somatmaka* in nature.<sup>27</sup> Heart is the substratum of the *oja* and it also controller of the mind.<sup>[28]</sup>

### *Ojakshaya* cause

Physical exercise, fasting, anxiety, intake of unctuous food and food in small quantity or habitual intake of food having one taste only, exposure to wind and sun, fear, grief, intake of unctuous drinks, vigil (*ratri jagran*), excessive elimination of phlegm, blood, semen, old age, *adankala*, demoniac seizures.<sup>[29]</sup>

***Ratri jagarana* causes *ojakshaya*. It happens due to increase of *ruksha* property due to *ratri jagarana*.**

### *Ojavyapada*

In *ojavyapada*, the signs and symptoms like stiffness and feeling of heaviness of the body, edema caused by *vata*, discoloration, exhaustion stupor and more of sleep are observed.<sup>[30]</sup>

As in *ojovyapada*, the symptom like over sleep is being observed, it can be understood that the properties like *snigdha*, *picchila* might be getting increased which might be causing over sleep. That means, the causes of *ojovyapada* are different than those of *ojokshaya*.

## 8. Role of Dosha

### Signs of symptoms of *doshavruddi*

#### *Dosavruddhi*

#### symptoms of increase of *dosha*

The signs and symptoms of *doshā*, *dhatu* and *malā* increase occurs due over-indulgence in things (food, drink, activities etc.).

Great increase of *vata*, gives rise to harshness of speech, emaciation of the body, black coloration, throbbing in the body parts, desire for warmth (warm comforts), **loss of sleep**, poor strength and hard faces etc.

Great increase of *pitta* gives rise to appearance of yellow color, discomfort due to heat, desire for cold things, **diminished sleep**, fainting, loss of strength, weakness of sense organs, yellow color in faces, urine and eyes etc.<sup>[31]</sup>

Great increase of *shlesma* (*kapha*) gives rise to white coloration, cold, stability (absence of movements), feeling of heaviness, debility, stupor, **sleep**, looseness of joints etc.<sup>[31]</sup>

So, it can be observed that any change in any *dosha* invariably affects the nature of sleep. The *rukshaguna* of *vata* is the cause of lesser *nidra* in *vataprakruti* people. So, conversely, it can be assumed that *snigdha* brings good sleep in the patients. That is why increase in *kapha dosha*, brings more sleep.<sup>[32]</sup> to the patient while increase in *vata dosha*, reduces the quantity of sleep in the said condition.<sup>[33]</sup> Probably, as *pitta* is slightly *snigdha*, but mostly *ruksha*.<sup>[34]</sup> the same property might be influencing the sleep pattern by diminishing sleep slightly.

Thus, *prakruti*, *dosha*, *dhatu*, *mind*, *indriya*, *oja*.....etc factors take part in managing *nidra*.

#### Modern aspect of physiology of sleep.

Sleep is a state of decreased response to external stimuli, decreased metabolism, decreased muscle tone, and reduced vital signs of breathing, blood pressure, heart rate etc. The brain on

other hand is not completely inactive having distinct electrical activity in each stage. These are controlled by the different sleep centers in the brain major of which are the raphe nucleus and locus ceruleus of pons both present in the brain stem. The neurotransmitters that play an important role in the induction of sleep are serotonin and melatonin. Serotonin controls the brain activities and melatonin has a depressive effect on the central nervous system. Both these are important for quality and quantity of sleep.<sup>[35]</sup>

### Hetu or causative factors of anidra

Elimination of *doshas* from the body and head through purgation and emesis, fear, anxiety, anger, smoke, physical exercise, bloodletting, fast, uncomfortable bed, predominance of *satva* and suppression of *tamas* go a long way towards overcoming the sleep in excess.

The above-mentioned factors along with overwork, old age, diseases, specially these due to the vitiation of *vata* like colic pain, etc. are known to cause sleeplessness even in normal individuals. Some are insomniac even by nature.

Old age usually causes sleeplessness. Some people suffer from sleeplessness by nature.<sup>[36]</sup> Excessive Purgations of the body and of the head, vomiting, bloodletting, inhalation of smoke; hunger, thirst, pain, happiness, grief, sexual intercourse; fear, anger, worry and such other emotions; uncomfortable bed, increase of *satvaguna*, victory over (conquering of) *Tamoguna* (inadequacy or non-existence), dry foods and intense engagement (indulgence in anything or work); lapse of the usual sleeping time and habit, effect of diseases, increase of *vata* and *pitta* in the body - all these are the causes for loss of sleep.<sup>[37]</sup>

### Signs and symptoms of Anidra

Loss of sleep causes vague pains all over the body, feeling of heaviness of the head, yawning, laziness, tiredness, giddiness, indigestion, stupor, and diseases produced by increased *vāta*.<sup>[38]</sup> If some one holding back *nidra*, that is *nidravegaavarodha*, signs and symptoms arising from that also indicate the same as those of *anidra*, as *nidra* is not getting completed in that case also.

### A. Other pathologies where Anidra is explained and the *samprapti* behind that...

Various pathological factors related with sleep in the form of *anidra*.



***Charaka******Vatpittaja visarpa lakshana***

In *vatapittaja visarpa nidranash* (insomnia) occur. Because of *vata* and *pitta* both are increases by various causes. it creates *daha* because of each others *bala*. Since due to insomnia movement and sensation loss occurs in patient, he becomes restless. Due to severe pain patient cant get proper sleep.<sup>[39]</sup>

***Vataja trushna lakshane***

In *vataja trushna* increased *vayu* absorbed body fluids (*rasa-rakta-vasa-kapha-pitta-mutra-sweda*etc)and dryness occur in *dhatu*. which causes *Nidranash*(insomnia),dryness in mouth etc.<sup>[40]</sup>

***Vamana atiyoga lakshana***

In *vamana atiyoga vataprakopa* occur, due to increased *vatadosha* increased thirst and loss of sleep occurs.<sup>[41]</sup>

***Virechana atiyoga lakshana***

In *virechana atiyoga Kapha*, *rakta* and *pitta* decreased and *vayu* increased, due to increased *vata nidranash* occur.<sup>[42]</sup>

***Sushruta******Vata vruddhi lakshana***

In *vata vruddhi lakshana nidranash* occur, *sheetaguna* of *vata* increased then increased desire of hot food and environment.<sup>[43]</sup>

***Pitta vruddhi lakshana***

in *pittavruddhi lakshana alpanidrata* occur, increased body *santap*(heat)then increased desire of cold food and environment.<sup>[43]</sup>

***kapha vruddhi lakshane***

in *kapha lakshana nidra* increased because of *kaphasheetaguna*.<sup>[43]</sup>

***Pramehaupdrava***

In *pittaja prameha updrava nidranasha* occur, in *vataja prameha updrava anidra* occur and in *kaphaja prameha updrava nidradhikya* occur.<sup>[44]</sup>

***Vatic jwaralakshana***

in *vataja jwara* increase *vatadosha* dryness in lips and throat, *nidranasha*, dryness in body. head, heart and body pain, abdominal pain, all these complaints occur due to increasing *vata*.<sup>[45]</sup>

***Pitta jwaralakshana***

In *pittaja jwara* *adysentery*(occur due to *pittaja dravaguna*), *nidralpatva* (loss of sleep), vomiting mix with *pitta*(*pitta* occur in *kaphasthana*).<sup>[46]</sup>

***Kaphaja jwaralakshana***

In *kaphaja jwara* because of *kapha vrudhi atinidrata* occur.<sup>[47]</sup>

***Apsmara purvaroopa***

Mind of an individual is overshadowed by *rajas* and *tamas*. when *doshas* gets aggravated and attach person whose minds are overshadowed by *rajas* and *tamas*. the *dosha* permeate the heart and sense organs. in epilepsy *purvroopa hrutkampa* loss of senses, insomnia occur.<sup>[48]</sup>

***Nidranasha karan***

Loss of sleep is caused by aggravation of *vata* and *pitta*, exhaustion of the mind, loss of tissues and injury to the body.<sup>[49]</sup>

**Effect of *bahudosha avastha* over *nidra***

Signs and symptoms (in general) of patients having vitiated *doshas* in excess are indigestion, anorexia, corpulence, anemia heaviness, exhaustion, eruption of pimples and urticaria, pruritus, no inclination for work, laziness, fatigue, weakness, foul smell of the body, lassitude, vitiation(*utklesa*) of *kapha* and *pitta*, **sleeplessness** or excessive sleep, drowsiness, impotency, impediment to intelligence, inauspicious dreams and loss of strength and complexion inspite of the intake of nourishing diet. in the event of such signs and symptoms, the patient should be administered emesis and purgation with due regard to the *doshas* vitiated and the strength of the patient.<sup>[50]</sup>

**DISCUSSION**

Proper sleep lead to *arogya* (health) and *sukha* (happiness).<sup>[51]</sup> *Anidra* is a *vataja nanatmaj vikara*. When quantity and quality of *nidra* are reduced, the provocation of *vata* and *pitta* takes the centre stage in the pathogenesis of *anidra*. *Anidra* causes *dukha* (unhappiness), *karshya*, *abala* (weakness) *klaibya* (impotency) *aghyanta* (impaired knowledge).

Increase condition of *vata dosha* can cause *anidra*. *Anidra* due to *vata dosha* of *ruksha guna*, increased condition of *pitta dosha* in Relation to its slight *ruksha* and slight *snighdha guna* is also responsible for *alpanidra*.

*anidra* is related to involvement of *manovaha strotasa* and *indriyas* resulting in impaired ability to concentrate, poor memory, reduction in working capability stamina and leads to behavioural changes in human beings.

Due to improper sleep *rasa dhatu* becomes deficient, does not circulate in and nourishes body which causes excessive emaciation.

suppression of urge for *nidra* causes yawning, malaise, drowsiness, heaviness in head and eyes.

## CONCLUSIONS

*Vata dosha*, *pitta dosha*, *rajo guna*, *hrudaya*, *mana*, and *sangyavaha strotas*(sensory channels)play an important role in the pathogenesis of *anidra*. *anidra* has been included under *vata nanatmaja vikaras*.

*Manasika nidanas* as well as psychic stress are main causative factors of *anidra*. the quality and quantity of *nidra* is deranged by both *shareerika* and *mansika dosha*.

Thus, in the conditions where *vata* is dominating, like modern lifestyle, older age, disease related pain, night job shift, anxiety. the nature of *nidra* remains as *anidra* or *nidranasha*. These are mostly the conditions where *vata* is dominating factor.

In the conditions where *pitta* is dominating, like *krodha*, *vidagdha annasevana*,and during digestion of food, the nature of *nidra* remains as *alpanidra*.

*Nidra* is one of the supportive pillar of life, which gives adequate rest to body and mind. avoiding causative factors is must to tackle the condition more preciously with *ayurvedic* management.

## REFERENCES

1. Vrudhha vagbhata, astangsangraha, & with shashilekha commentary of indu edited by dr. jyotirmitra acharya kruta Chaukhamba sanskruitprakashan Varanasi, 2016, asthangsangraha Sutrasthana, 9/27.

2. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 21/35.
3. Sushruta samhita (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sharirsthana .4/41.
4. singh sunil pal, efficacy of dashmoolatailadhara and jaladhara in management of insomnia vol.1,issue 1,jan-april 2016 ISSN 2455-6246 international journal of ayurveda and medical science.
5. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 21/36-38.
6. Vrudhha vagbhata, astangsangraha, & with shashilekha commentary of indu edited by dr. jyotirmitra acharya kruta Chaukhamba sanskritprakashan Varanasi, 2016, asthangsangraha Sutrasthana 9/31.
7. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 7/3-4.
8. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, chikitsasthana 24/35.
9. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 21/35.
10. Sushruta samhita (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sharirsthana. 4/33.
11. Sushruta samhita (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sharirsthana. 4/33-34.
12. Sushruta samhita (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sharirsthana. 4/32.
13. Vrudhha vagbhata, astangsangraha, & with shashilekha commentary of indu edited by dr. jyotirmitra acharya kruta Chaukhamba sanskritprakashan Varanasi, 2016, asthangsangraha Sutrasthana 9/28.

14. Vrudhha vagbhata, astangsangraha, & with shashilekha commentary of indu edited by dr. jyotirmitra acharya kruta Chaukhamba sanskritprakashan Varanasi, 2016, *asthangsangraha Sutrasthana* 9/29.
15. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sutrasthana 21/24.
16. snehal d.tope et.al.conceptual study of *nasya* and *shiropichu* in *management of nidranasha*(primary insomnia)vol.4.issue 2,feb 2016 ISSN 2320-5091 international ayurvedic medical journal [www.iamj.in](http://www.iamj.in)
17. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 8/4.
18. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 8/7.
19. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sutrasthana 17/51-52.
20. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthan 20/11.
21. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017,vimansthana 8/98.
22. *Vagbhata, Ashtanga Hridaya* (With Sarvangasundara commentary of Arundata and Ayurvedic Rasayana of Hemadri) Anna moreswara Kunthe, edited by Bhishakacharya Harishastri Paradkara Vaidya, Chaukhamba surabharati prakashana, Varanasi,vagbhata *sharirasthana* 3/101.
23. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 sutrasthana 14/3.
24. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, chikitsasthana 28/33.
25. *Vagbhata, Ashtanga Hridaya* (With Sarvangasundara commentary of Arundata and Ayurvedic Rasayana of Hemadri) Anna moreswara Kunthe, edited by

- Bhishakacharya Harishastri Paradkara Vaidya, Chaukhamba surabharati prakashana, Varanasi, vaghbhatta *sutrasthana* 11/27.
26. olson k. Pain and sleep: understanding the interrelationship vol.14, issue 9 may 18, 2015
  27. *Sushruta samhita* (with Nibandha Samgraha and Nyayachandrika Teeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *sutrasthana* 15/26.
  28. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 30/6.
  29. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 17/76-77.
  30. *Sushruta samhita* (with Nibandha Samgraha and Nyayachandrika Teeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *sutrasthana* 15/29.
  31. *Sushruta samhita* (with Nibandha Samgraha and Nyayachandrika Teeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *sutrasthana* 15/18.
  32. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 20/17.
  33. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 20/11.
  34. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 1/60.
  35. k.sembulingam prema sembulingam. essential of medical physiology: 6<sup>th</sup> edition ch.161.p.958.
  36. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 21/55-56-57.
  37. Vrudhha vagbhata, asthanga sangraha, & with shashilekha commentary of indu edited by dr. jyotirmitra acharya kruta Chaukhamba sanskrit prakashan Varanasi, 2016, *asthanga sangraha Sutrasthana* 9/41.

38. Vrudhha vagbhata, astangsangraha, & with shashilekha commentary of indu edited by dr. jyotirmitra acharya kruta Chaukhamba sanskritprakashan Varanasi, 2016, *asthangsangraha Sutrasthana* 9/42.
39. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *chikitsasthana* 21/36.
40. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *chikitsasthana* 22/12.
41. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *siddhisthana* 1/16-17.
42. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *siddhisthana* 1/19.
43. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *sutrasthana* 15/18.
44. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *nidansthana* 6/13-15.
45. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *uttartantra* 39/29.
46. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *uttartantra* 39/31.
47. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *uttartantra* 39/33
48. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *uttartantra* 61/7.
49. *Sushruta samhita* (with NibandhaSamgraha and NyayachandrikaTeeka) 8<sup>th</sup> edition. Chaukhamba Sanskrit Sansthana, Varanasi, 2017 *sharirasthana* 4/41.
50. Agnivesha, Charaka Samhita, revised by Charaka & amp; Dridhabala with Ayurvedadipika commentary of chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, *sutrasthana* 16/13-16.

51. Agnivesha, Charaka Samhita, revised by Charaka & Dridhabala with Ayurvedadipika commentary of Chakrapanidatta edited by Yadavji Trikamji Chaukhamba Surabharti prakashana Varanasi, 2017, sutrasthana 21/36.