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Insomnia and its *Ayurveda* Management– A Critical Review.

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ABSTRACT:

Sleep is one of the basic and vital necessities of the body. Sleep is a normal biological process that provides the body (*Sharir*) and intellect (*Mann*) enough rest. Because of this, Ayurveda emphasises the importance of sleep, referring to it as *Trayoupasthambh (Ahara*-dietary habits, *Nidra*-sleep pattern, and *Brahrnacharya*-celibacy), (three support pillars). According to the text, *Dhatu Samyata* (the balance of the body constituents) depends on sleep. Particularly, the state of one's food and sleep affects obesity and emaciation. A careful review of the *Ayurvedic* medical literature reveals that increased *Vata*, old age, habit, and indulgence in work are the main causes of the *Anidra* (sleeplessness). This condition is also a consequence of a variety of diseases, and a number of ailments are caused and aggravated by inadequate sleep. In *Ayurvedic* literature, terms for insomnia include *Anidra*, *Nidranasha*, and *Asvapna*. Insomnia is a sleep disorder where people experience difficulty in sleeping or inadequate, poor-quality sleep. They may have trouble falling asleep, waking up frequently during the night with difficulty returning to sleep, and waking up too early in the morning. However, insufficient sleep increases the risk of numerous lifestyle-related diseases and impairs working capacity and concentration. Therefore the current article discusses the causes, effects, and treatment options for insomnia from an *Ayurvedic* perspective.

Keywords: *Anidra*, *Ayurveda*, Insomnia, *Nidra*, Sleep

INTRODUCTION

Everyone has trouble sleeping at some point in their life, whether from parenthood, noisy environment, day to day stress or general anxiety. Insomnia is a condition which makes it difficult to fall asleep at night, and it can be incredibly frustrating, especially when the cause isn't clear. *Anidra* or insomnia is the result of modern era's competition or work load resulting in persistent stress. Insomnia has tendency to damage the person's daily life, including his social and occupational life. If it is very chronic a person may develop many psychiatric illnesses. *Anidra* has been recognised as a 'public health epidemic' nowadays. The general public often fail to recognize the seriousness of insufficient sleep and it also many times missed by primary care physician. As a consequence, sleep insufficiency often goes unreported. The prevalence of insomnia is variable depending on the parameters selected. Various studies worldwide have shown the prevalence of insomnia in 10% -30% of the population, some even as high as 50% -60%.[1] US adults 1 in 5 struggles to sleep every single night. In India, in a study among 2475 adult

subjects of 30-60 years, it was found that 28.1% of the subjects reported to have complaints suggestive of disorders of initiation and maintenance of sleep.[2] It is common in older adults, females, students and people with medical illness. Insomnia is 40% more common in women than in males. It is important to note that this is not a direct causal relationship between sleep duration and increased mortality, as multiple behavioural and co-morbid factors (age, gender, obesity, diabetes mellitus, hypertension and smoking) interact, with possible cumulative effects leading to the observed increases in mortality. The value of getting enough sleep is acknowledged on a global scale. That's why the significance of sleep to health status deserves particular and earnest attention.

Present day modern medical doctors prescribe different kind of tranquilizers which give considerable relief in insomnia. But the continuous and long-term use of these treatment may induce various side effects like changes in appetite, difficulty in keeping balance, dizziness, daytime drowsiness, dry mouth. All sedatives increase the risk of injurious fall and confusion in elderly. Benzodiazepines carry a risk of addiction and abuse. In patients with depression, all sedatives can worsen the depression. Sedatives can also produce complex behaviours during sleep, such as sleep walking and sleep eating. After a long time, patient may develop drug dependence and therapeutic dose of drug has to be increased. In such a scenario there is an immediate need for the efficient management of insomnia in a natural way with usage of herbal medicines and following proper lifestyle. Ayurveda has rich source of knowledge about the utilization natural resources for management of various ailments. A lot of herbal, herbo-mineral medicines and various *Panchkarma* procedures are described in Ayurvedic literatures which can be utilized in various mental problems including insomnia.

AIM & OBJECTIVES

To review the disease *Anidra* and its possible management through Ayurveda remedies with lifestyle modification.

MATERIAL & METHODS

To fulfil the aims and objectives relevant Ayurveda and Modern literature, available information on internet**,** Journals, Research papers, Articles are referred to study the concept of sleep (*Nidra),* insomnia *(Anidra).* Which will discuss ahead.

DISCUSSION

In *Ayurveda* sleep is considered as an important fact for health and longevity, happiness, Misery, nourishment, emaciation, strength, weakness, virility, sterility, knowledge, ignorance all these depends upon proper sleep. It also does *Dhatusamyata* (balance of the body constituent) which is essential for a healthy body and mind and it is helpful to maintain the age.[3] In *Ayurveda* classics, described that person who take proper sleep in proper time can achieve healthy state of mind as well as good complexion and virility in addition of longevity.[4] Sleep indulged into at improper time, in excess or not at all can affect the normal metabolism of body.[5]The description of *Anidra* or *Nidranasha* as a disease is found in Ayurvedic literature. There are different terms used for the *Nidra i.e "Bhutadhatri*"[6] *and "Vaishnavi*".[7] The explanation for *Nidra* and *Nidranasha* is found in *"Ashtou Ninditiya Adhyaya*".[8] *Acharyas* coated *Nidranasha* under eighty types of *Vata Nanatamaja Vikara*[9] and *Adharniya Vega*[10] (non-suppressible urges). There are number of diseases in *Ayurvedic* texts mentioned *Anidra / Nidranasha* as an etiological factor e.g. *Vata Prokopa* (Vitiation of *Vata),* *Vata Rakta* (Gout), *Dhatu Kshya* (Wastage of body constituent), *Vataja Prameha* (Diabetes mellitus), *Urustambh* (Aortoiliac occlusion), *Shiroroga* (Diseases related to head) etc. *Anidra* as a premonitory symptom in various diseases e.g. *Jwar, Apasmara*. Sleep is a fundamental behaviour, although its specific functions are not yet fully understood. Sleep occupies approximately one third of the human lifespan and loss of sleep can lead to cognitive, emotional and physical impairment. Systems involved in regulation of sleep and wakefulness appear to overlap or interact with systems involved in the regulations of emotion and other behaviours. Sleep is needed to maintain metabolic caloric balance, thermal equilibrium and immune competence. Sleep is necessary for learning and memory consolidation. Insomnia usually presents as difficulty in initiating or maintaining sleep. Insomnia can be considered as a disease as well as the symptoms of underlying disease like asthma, Chronic Obstructive Pulmonary Disease, Gastro oesophageal reflux disease, malignancy, liver cirrhosis etc. Insomnia may also co-exist with both physical illness like thyroid disease and psychological illness like depression and anxiety. Multiple over the counter medications contain caffeine and anti-histamine contribute to sleep disturbance. Table No-1: Different types of sleep mentioned in classics. Insomnia can be classified in different ways. It is classified as acute

or chronic. Acute insomnia is the inability to sleep well for a period of less than a month. Chronic insomnia lasts for more than a month or longer. DSM-IV defines insomnia as difficulty initiating sleep or maintaining sleep or having non restorative sleep for 1 month or more. Insomnia can be categorised in terms of how it affects sleep (sleep onset insomnia, sleep maintenance insomnia, or early morning awakening). It also classified according to its duration (transient, short term, long term). Primary and secondary insomnia. ICSD 3 gives subtypes of insomnia includes psychophysiological insomnia, idiopathic insomnia, paradoxical insomnia, inadequate sleep hygiene, behavioural insomnia of childhood, insomnia comorbid with mental disorder and medical conditioned, insomnia due to drug or substance. Authors caution that despite of these various subtypes, it is often difficult to discriminate among them in clinical practice.

Etiological Factors[14]

Table No-2: Etiological factors described in classics for Insomnia:

Pathogenesis In The Light Of Ayurveda[15]

Flow chart -1: Pathogenesis of sleep according to Ayurveda

Pathophysiology Of Insomnia[16]

The American Academy of Sleep Medicine (AASM) classifies sleep into 5 progressive stages: Stage W (wakefulness) Stage N1 (relaxed wakefulness) Stage N2 (light sleep) Stage N3 (deep or slow-wave sleep) Stage R (REM sleep or dreaming). Stages N1-N3 are phases of non-REM sleep in which cortical activity is low, whereas the brain is highly active during REM sleep. During sleep, there is a slow transition through stages of non-rapid eye movement (non-REM) sleep to cycles of rapid-eye movement (REM) sleep. Insomnia is a complex interaction of psychological cognitive arousal and altered circadian and homeostatic mechanisms. Decreased function of the sleep-wake switch may also contribute to insomnia. Flow Chart-2: Physiology of sleep and awake according to Modern Literature. The 3P behavioural model of insomnia helps to explain how acute insomnia becomes chronic. Flow Chart 3: 3P behavioural model of insomnia

Ayurveda symptom of *Anidra*- clinical features *(Lakhshan)*.

In *Ayurvedic* texts the prodromal features is not mentioned but it can be apprehend that *Purvarupa* of *Anidra* may be inadequate sleep in the beginning before it leads to full-fledged state of sleeplessness. Loss of sleep causes *Angamarda* (vague pain in all over body), *Shirogaurav* (feeling of heaviness of the head), *Jhimbhra* (yawning) *Jadyata* (laziness), *Glani* (tiredness), *Bhram* (giddiness), *Apakti* (indigestion), *Tandra* (stupor) and diseased produced by increased *Vata.*[17] According to *Acharya Charaka* yawning, body ache, stupor, headache and heaviness in the eyes results from the suppression of natural urges of *Nidra*.

Modern symptoms of Insomnia

In modern text Symptoms[18] of Insomnia are General tiredness, Problems with concentration or memory, Difficulty falling asleep at night Sleepiness during the day, Waking up during the night, Waking up too early, Not feeling well-rested after a night's sleep, Daytime tiredness or sleepiness, Irritability, depression or anxiety, Difficulty paying attention, focusing on tasks or remembering, Increased errors or accidents, On-going worries about sleep.

Diagnostic Tools

Table N0-3: Diagnostic tools for the Insomnia

Table No-4: Physiological changes during sleep

Complications[19]

Table No-5: Complications due to Insomnia

Management[20]

Aversion from etiological factors

Before starting medication for insomnia any other pathological condition (psychiatric, neurological, chronic illness) may be ruled out first and if present should be treated accordingly. Other factors discussed above should be avoided.

Dietary modalities

Intake of *Mansa Rasa* (Meat soup) of *Gramya* (dry climate habitat animals), *Anupa* (humid climate habitat animals), *Audaka* (aquatic animals), *Bileshya* (animal lives in burrow) and *Vishkira (*a variety of bird*). Shali* (rice) with curd, *Godhum (wheat), Pistanna* (items prepared with paste of grains), *Ksheera* (milk), *Sneha* (oil), *Draksha* (grapes), *Sita* (sugar), *Madya* (alcohol) which is *Mannsukham* (which is pleasant to mind) used. Persons who get insufficient sleep should use milk, sugarcane juice, eatables prepared from Jeggery and *Masha* (black grams), *Kilat* (kind of milk product), curd of buffalo milk and *Madhura, Snigdha Bhojana* (sweet and oily meal). Use of

ghee followed by drinking of milk boiled with *Jivanya* group of drugs.

Lifestyle modalities

Follow the regimen, like residing in a favourable place. Hearing favourable words and music induces sleep. The bed should be spread in a place where a mild breeze and pleasant smell are present, and it should also be soft and attractive in appearance. The clothes are clean and have a good fragrance. The sleeping area has minimal light, and it should be in a safe place. A sense of satisfaction from having good deeds, thinking of things pleasant to the mind and fulfilment of desire. Touch and the warm embrace of the affectionate person

Bio purification therapy

Abhyanga (body massage), *Padabhyanga* (foot massage), *Shiroabhyanga* (head massage), *Utsadan* (rub body with paste), *Udvartan* (rub body with powder), *Netra tarpan* (eye pooling in liquid oil/decoction etc.), *Karna tarpan* (ear pooling with oil etc.), *Shira* and *Mukh Lepa* (applying face pack), *Shirodhara* (pouring liquid on head), *Pichu* (placing cotton dipped in oil etc. over anterior fontanelle), *Shirobasti* (holding oil over head), *Snana* (bath), *Samvahana* (pleasant touch over body) In modern science treatment of insomnia includes both non-pharmacological and pharmacological therapy; Table No-6: Non-pharmacological and pharmacological therapy according to modern for Insomnia

Shaman Chikitsa - *Table No- 7: Shamana Chikitsa* according to *Ayurveda* for Insomnia

Mode Of Actions of Some Useful Medicinal Plant for Insomnia:

***Tagar* [*Valeriana wallichii*][21]** - The *Rasa* (taste) of *Tagara* is being *Katu* (pungent), *Tikta* (bitter), *Kashaya* (astringent), they should probably aggravate *Vata*. However, because of its *Ushna Virya* (hot potency), it alleviates rather than aggravate *Vata*. These pharmacodynamic actions are helpful in breaking the pathogenesis of *Anidra*. Valeranone and Valepotriates are present drug, Valeranone present in *Tagara* is 2%, Valepotriates are present in 3–6% in *Tagara*. Valepotriates are responsible for the chief effect of Valerian as a potent Sedative. It inhibits enzyme-induced breakdown of GABA in the brain resulting in sedation. This might be the probable reason that there was a significant improvement in the signs and symptoms of the patients.

***Jatamansi* [*Nardostachys jatamansi DC*][22]** - It is used to treat a wide range of disorders, has been primarily recommended for psychiatric illness traditionally. Essential oils and the component jatamansone have shown such activities experimentally. Jatamansone exerted a tranquilizing effect in mice and monkeys and a significant reduction in hyperactivity and improvement in restlessness and aggressiveness on hyperkinetic children similar to amphetamine. Alcoholic extract of *Jatamansi* root increased the level of GABA on acute administration and increased the levels of most of the central biogenic amines and inhibitory neurotransmitters on chronic administration. This study shows that *Jatamansi* rhizome powder possesses CNS depressant activity without affecting gross behaviour and muscle relaxation in animals. It is *Tridosha Shamaka* with action.

***Aswagandha* [*Withania somnifera Linn.*][23]** - It is thought to induce sleep through GABAergic activity, as seen in sleep-deprived rats. Since GABA agonist has been linked to anxiolysis, these findings support the recommendation in Ayurveda that *Aswagandha* be used for tranquillization. Triethylene glycol (TEG) in water extract is responsible for sleep in mice. TEG induces sleep by increasing the number of NREM episodes and decreasing the duration of the wake episode. However, studies on the effect of *Ashwagandha* related to insomnia in human are limited. It has *Madhura, Tikt Rasa, Madhura Vipaka, Ushna Virya* and *Vata Kapha Shamak Karma*. It is *Rasayana* also.

***Sankhapuspi [Convolvulus pluricaulis choisy]*[24]** - The herb induces a feeling of calm and peace, good sleep and a relief in anxiety, stresses, mental fatigue, producing a significant reduction in the level of anxiety, neuroticism arising due to various levels of stresses. The herb appears to produce its action by modulation of neurochemistry of the brain. The plant improves the balance and vitiation in *Vata-Pitta Doshas*, the herb is *Tikta* in *Rasa* and *Madhura* in *Vipaka*.

***Sarpagandha* [*Rauwolfia serpentine Benth.*][25]** - Reserpine compound present in this drug exerts a tranquilizing effect by depleting the amino acids from its storage in the brain. Micronutrients also play a part in the sedative property of plants. Especially, minerals such as Ca, Mg, and trace elements like Fe are evident to play significant roles in managing sound sleep. Ca is associated with the declination of sleep-latency and increase of more restorative sleep. Mg has a profound effect on increasing

sleep duration NREM sleep. Fe also acts quite similar to that of Mg by reducing night awakening events with increasing night time total sleep duration. It has U*shna Virya* and *Nidrajanan* by *Prabhava*.

***Brahmi* [*Bacopa monnieri Linn*.][26]** -Its alcoholic extract of the plant, in a dose of 100 mg/100g body weight showed potent hypnotic effect in albino rats. It is *Madhra Rasa*, *Madhura Vipaka* and *Medhya*, *Rasayan* in *Karma*.

***Parsik yavani* [*Hyoscyamus niger Linn*.][27]** - *Hyoscyamus* is a cerebro-spinal stimulant, or in the meaning of the term, a cerebro-spinal sedative [Scopolamine (hyoscine)]. To allay irritability, upon which sleeplessness often depends, or to relieve restlessness and dreaming during sleep, no drug is more efficient than *Hyoscyamus*, in small doses. Patient may have been disturbed with unpleasant dreams, Puerperal mania, due to exhaustion and weakness, is often controlled by *Hyoscyamus.* It acts well in the insomnia of exhaustion, where there is continual agitation and nervous unrest. The plant especially seeds in large doses produces poisonous effects similar to *Dhatura* poisoning such as dryness of mouth, giddiness, delirium, blurriness of vision etc. It relieves pain and promotes sleep. It has Ushan *Virya* and it alleviates *Kapha* and *Vata Doshas.* While describing *Madakari Dravyas* (narcotic substances) *Acharya Sharangadhara* has given the definition *"Buddhim Lumpati Yat Dravyam Madakaari Taducchyate Tamo Guna Pradhanam Cha Yathaa Madyam Suraadikam"(Sha.Sam.Poo-4/21)*. *Madakari dravyas* are *Tamaguna* predominant responsible for *Nidrajanan.*

***Bhanga* [*Cannabis sativa Linn*.]**- This drug has effect on *Manovaha srotas* (Mind). It is well established mood elevator. The activity of cannabis is psychosomatic in nature. It has Crude ethanolic and petroleum ether fractions. By action it is *Madakrit.*

***Yastimadhu* [*Glycyrrhiza glabra Linn*.][28]** - It is reported to have neurological properties such as antidepressant, anxiolytic and anticonvulsant effects. The molecular structure and pharmacophore model of glabrol and liquiritigenin indicate that the isoprenyl groups of glabrol may play a key role in binding to GABA (A)-BZD receptors. The study implied that flavonoid glabrol induced sleep via a positive allosteric modulation of GABA (A)-BZD receptors. It is *Madhra* in R*asa*, *Madhura* in *Vipaka* and *Guru, Snighdha* in *Guna* and *Vata Pittahara* in *Karma*.

***Vacha [Acorus calamus Linn*.]**[29] - Steam volatile fractions of the root and rhizome (petroleum ether extract) prolonged the sleeping time with pentobarbital, hexobarbital and ethanol. Asarone and β-asarone (active principle of rhizome) enhanced the anesthetic activity of pentobarbitone, hexobarbitone and ethanol in mice. It is U*shana Virya* and *Medhya* in *Karma* and useful in *Manas Roga* like *Unmaad, Apasmar, Bhutajantuanilahara*.

Do's & Dont's[30] -Table No-8: Do's and don'ts according to classics for Insomnia.

CONCLUSION

Insomnia is a disorder which can affect the psychological state of person. It needs to focus its progression by early diagnosis. An additional attention toward life style and mental health with help of Ayurveda remedies and Rejuvenation therapies can help to manage the progression of Insomnia.

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Flow chart -1: Pathogenesis of sleep according to Ayurveda

Mind → gets exhausted → dissociates from there objects,

Tama → over powers the mind *(Satva*), as day passes

Hridya (seat of conscious) → covered with *Kapha* and *Tama* → Decrease power of sleep

Food → Digestion → *Kapha* increase → All pathways occlude → Deprived away from concerned activities and as well as consciousness

} Induces perception

Flow Chart-2: Physiology of sleep and awake according to Modern Literature

Circadian factors promote
Ascending reticular activation system (ARAS) promotes
Norepinephrine and dopamine promote
} wakefulness

ventrolateral preoptic region (VLPR) promotes → Sleep

During wakefulness

ARAS — inhibit VLPR via activation of cholinergic neurons — VLPR

During sleep

Inhibit ARAS via inhibitory neurotransmitters, γ-aminobutyric acid (GABA) and galanin.

Flow Chart 3: 3P behavioural model of insomnia

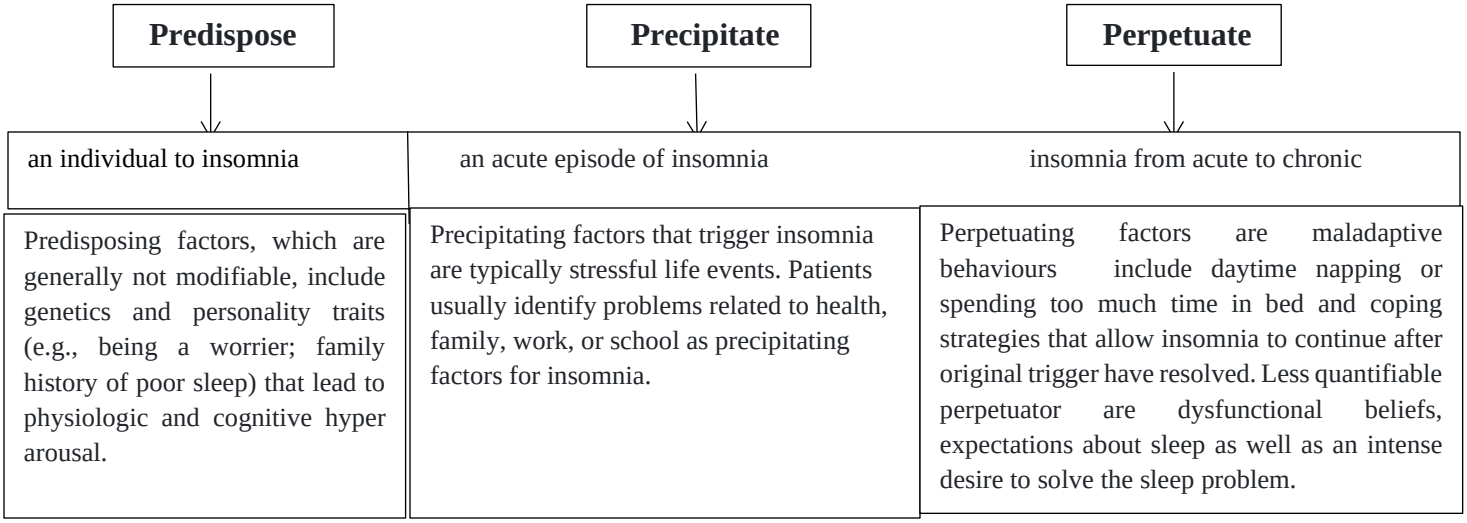

Table No-1: Different types of sleep mentioned in classics:

Types	***Charaka Samhita***[11]	***Sushruta Samhita***[12]	***Vagabhat Samhita***[13]
Tamobhava Nidra- It is particularly due to excessive *Tamas* causing sleep.	✓		✓
Shleshma Saumdbhava Nidra - The *Shleshma* and *Tama* having similar properties. When *Shleshma* increases in the body, it induces lethargy and sleep.	✓		✓
Mana Shrama Sambhava Nidra:- This type of sleep is produced as the result of exertion. Due to it the mind gets tired and unable to perform its activities as a result, the individual gets sleep.	✓		✓
Sharira Shrama Sambhava - This sleep is caused due to physical exertion. The body and mind desire to take rest and agitate to work further and the person gets sleep.	✓		✓
Agantuki Nidra- This type of *Nidra* is considered as *Rishtabhuta* (Prodromal sign of death).	✓		✓
Vyadhi anuvartini Nidra - This type of *Nidra* is caused due to some other disease.	✓		✓
Ratri Swabhava Prabhava Nidra- It is a natural phenomenon and it comes at a particular time.	✓		✓
Swabhivika Nidra - This type of *Nidra* can be correlated with *Ratri Swabhavaj Nidra*, This mostly happens in the night and individual gets sleep.		✓	
Vaikariki Nidra: It is due to vitiation of *Doshas*. The person doesn't enjoy the sufficient and sound sleep in quality and quality.		✓	
Tamsi Nidra - It is the lack of consciousness preceding the death. This is induced due to the blockage of *Sanjgyavaha Srotasa* by *Tama* and dominant *Kapha* and by this *Nidra* individual cannot be awakened. People in this condition sleep in day and as well as in night		✓	

Table No-2: **Etiological factors described in classics for Insomnia:**

Aharaja **(Dietary causes)**	It includes dietary articles having dry property. Fasting, Hunger, Thirst
Viharaja **(lifestyle causes)**	excessive physical exertion and exercise, sexual intercourse, uncomfortable bed, intense engagement in anything, lapse in the usual sleeping time and habit, trauma
Manasik **(Psychological causes)**	It include fear, anxiety, anger, sorrow, greed and agitation (*Mann Santap*), pain, happiness, worry
Miscellaneous causes	Administration of excessive therapies like *Vamana* (emesis), *Virechana* (purgation), *Nasya* (nasal medications), *Rakta Mokshana* (bloodletting) and *Dhooma* (medicated smoke). Aggravated *Vata*, increase in *Satva Guna*, and victory over *Tama Guna*. Effect of disease, like *Vataj Jwar, Tridoshaj Jwar, Madatya, Paittika Unmada, Tridoshaj Atisara* etc.

Table N0-3: Diagnostic tools for the Insomnia

Insomnia Severity Index (ISI)	The ISI includes severity of sleep onset and maintenance difficulties, satisfaction with current sleep pattern, interference with daily functioning and the degree of concern caused by insomnia.	Total score is classified as follows: 0–7, no clinical significant insomnia; 8–14, sub threshold insomnia; 15–21, clinical insomnia of moderate severity; and 21–28, severe clinical insomnia.
Pittsburgh Sleep Quality Index (PSQI)	Individual self-report items assess a broad range of domains associated with sleep quality, including usual sleep wake patterns, duration of sleep, sleep latency, the frequency and severity of specific sleep-related problems, and the perceived impact of poor sleep on daytime functioning.	This index consists of item scores ranges from 0–3. The global score is classified as follows: 10-15, mild depression; 16–23, moderate depression; 24–63, severe depression. Higher scores indicate worse sleep quality.
Epworth Sleepiness Scale (ESS)	ESS is a self-report instrument to measure perception of sleepiness.	Higher scores indicate stronger subjective daytime sleepiness.
Sleep Diary	It is a questionnaire completed by person each morning to describe the previous night's sleep	Data from sleep diary may help minimize the parameters affecting their sleep

Table No-4: Physiological changes during sleep

Circulatory system	Pulse rate, cardiac output, vasomotor tone and blood pressure reduced
Respiratory system	Rate of respiration and, therefore pulmonary ventilation-lowered (sometimes rate may be unchanged or even high due to shallow breathing)
Nervous system	Deep reflexes are reduced, Babinski, extensor, superficial reflexes unchanged, vasomotor reflexes more brisk, light reflex- retained
Secretions	Salivary and lacrimal: reduced, gastric: unaltered or raised, sweat: raised
Eyes	Eyeballs roll up and out, due to flaccid external ocular muscles, eyelids come closer, specially due to the drooping of the upper lids, pupils are contracted
Muscles	Relaxed (tone minimum), responsiveness is also lessened

Table No-5: Complications due to Insomnia

Heart Problems	Consistent poor sleep increases risk for heart problems such as irregular heartbeat, heart failure, and coronary heart disease. Lack of sleep cause less likely to exercise and more likely to make poor food choices – which is causing obesity and in a state of sleep deprivation, average stress level is higher, too, which can also not good for heart.
Mental health issue	Insomnia makes more likely to have depression than someone who gets decent sleep. It also raises risk for anxiety and suicidal thoughts. Depression can also cause insomnia. Depression and insomnia together create a vicious cycle. Insomnia makes it hard to concentrate and hurt your short-term memory.
High blood pressure	Blood pressure naturally goes down while you sleep. Less sleep cause blood pressure stays higher for a larger part of the day. Consistent high blood pressure raises your risk for heart disease and stroke.
Diabetes	Chronic insomnia does poor blood sugar control and develops type 2 diabetes. This is especially true in elders.
Lower immunity	Too little sleep increases inflammation, which keeps immune system from working as well as it usually, does. Constant inflammation may also be a risk factor for many health conditions.
Substance abuse	Whenever trouble sleeping, people try to bring on sleep with drugs or alcohol. Many sleep medications are also habit-forming.

Table No-6: Non-pharmacological and pharmacological therapy according to modern for Insomnia

Non-pharmacological therapy	➢ It includes cognitive and behavioural therapy. ➢ Treatment also includes improvement of sleep hygiene (encouragement of regular time for sleep, decrease night time distractions, eliminations of caffeine and other stimulants and alcohol). ➢ Treatment of medical and psychiatric disease contributes to the insomnia.
Pharmacological therapy	➢ Sleep promoting medication such as Benzodiazepine receptor agonist are an effective and well tolerated class of medication for Insomnia. E.g. lorazepam, zolpidem and clonazepam etc. ➢ The heterocyclic antidepressant like amitriptyline are most commonly prescribed alternative to BzRAs due to their lack of abuse potential and low cost. Present day modern medical doctors prescribe different kind of tranquilizers which give considerable relief in insomnia. ➢ Ramelteon (Rozerem), this sleep medication works differently than the others. It works by targeting the sleep-wake cycle, not by depressing the central nervous system. It is prescribed for people who have trouble falling asleep. It can be prescribed for long-term use, and the drug has shown no evidence of abuse or dependence. ➢ Suvorexant (Belsomra)**,** it works by blocking a hormone that promotes wakefulness and causes insomnia. It is approved by the FDA to treat people that have insomnia due to an inability to fall asleep or to stay asleep.

***Table No- 7: Shamana Chikitsa* according to *Ayurveda* for Insomnia**

Astanga Sangraha	• Decoction of *Jeevaniya Gana* with milk
Bhava Prakash	• *Pippali Mula Churna* with jiggery • Roasted *Vijaya* Powder with honey for internal and external applications • Decoction of root and bark of *Kakamachi* with jaggery • *Mamsa Rasa, Shaka, Sarpi, Yoosha, Ksheera*- all mixed with *Palandu* • *Kakajangha Twak Kwath* with *Madhu*
Harita Samhita	• *Kantakaridwaya, Vasa, Kakamachi, Punarnava, Vartakimoola*- all in equal quantity, *Kwath* is to be prepared. • *Kakajangha, Apamarga, Kokilaksha, Shooraparnika*- all in equal quantity, *Kwath* is to be prepared.
Vanga Sena	• *Ashwagandha Churna* with *Sharkara* and *Ghrita*
CCRAS	• Use of *Medhya Rasayana* • *Khaskhas* (Seeds of *papaver somniferous*) with milk at bed time • Steamed brinjal at bed time.

Table No-8: Do's and don'ts according to classics for Insomnia:

Modification	**Favourable**	**Unfavourable**
Diet	*Sastika Shali* (rice), *Godhuma* (wheat), *Guda* (jaggery), *Mamsa Rasa* (meat soup), *Matsya* (fish), *Sita* (sugar), *Sneha* (oil), *Tila* (sesame), *Ikshu Rasa* (sugarcane juice) *etc.* Diet should be simple, nutritious and easily digestible. Drinking milk, particularly buffalo milk at bed time is advisable. Meals should be timely and dinner at least 2 hours before going bed.	Avoid Tea, coffee, alcohol, tobacco smoking or chewing and excessive intake of chocolates, *Katu, Tikshna* and *Rukshya Aahara* (dry property food items e.g. barley), spicy food items, fast food like noodles, chips, biscuits and cold drinks etc.
Lifestyle	Bed should be comfortable in accordance with the seasons and surroundings, Positive thinking, peaceful and mentally relaxed attitude, walking after dinner, head and feet massage, *Sugandhi Dravya Lepana* (aromatic substance application), taking food and sleep at regular time daily, being in the company of good friends and loved ones, washing feet with warm water etc. *Asana* (posture) like *Padamasana, Gomukhasana, Shavasana* are beneficial.	Excessive exercise and indulgence in sex, Day sleeping, night awakening, irregular and hectic daily routine, overexertion and aggressive behaviour, sitting long time in front of TV or computers, improper bed, irregular timings of sleep and food etc.