

INSOMNIA – AN AYURVEDIC APPROACH

Shadab Khan¹, Suhas Kumar Shetty², Anjali Pant³, Lakshmi Varma⁴

¹PG scholar, ²HOD and professor, ³PG Scholar, ⁴PG scholar

^{1,2}Dept.Of Manovigyan evum manasa roga, ^{3,4}Dept. of swasthavritta and yoga

Sri Dharmasthala Manjunatheshwara College of ayurveda and hospital, Hassan, Karnataka, India

Email: shadabkhann89@gmail.com

ABSTRACT

Sleep is an essential part of life of all the higher forms of life. It plays a key role in keeping the biological clock running and the body functioning properly. Thus it has been explained as one among the three pillars of life along food and celibacy in the ayurvedic classics. Sleep is the one which replenishes the energy that has been spent during the activities in the day time and helps the body to recover. It is so important that even life and death is also said to depend on it . Recent findings suggest that sleeplessness epidemic has gripped an estimated 150 million people in developing world. Many reasons have been enumerated for this like modern lifestyle, stress, elder age, pain, mental illness etc. In ayurveda it is termed as *Anidra*. For this many causes have been explained like work, age, diseased conditions, constitution and some *Dosha* like *Vata & Pitta*. There is also an elaborate description about its management principles with and without medical intervention. In this article an attempt has been made to generally understand the concepts of causes, consequences and management of insomnia in an Ayurvedic perspective.

Keywords: sleep, Andria, insomnia

INTRODUCTION

All living beings have many things in common like the growth, metabolism, response to stimulus etc which set them apart from the non living objects in the world. Taking rest is one such phenomenon seen in most of the higher organisms including plants which helps the organism with the restoration and conservation of energy

for its activities. This is termed as sleep. In the human beings it is defined as the natural periodic state of rest for mind and body with closed eyes characterized by partial or complete loss of consciousness¹. It is one among the few things that acts as direct link between psyche and body. Our body is naturally programmed to sleep daily

and it has been observed to be as essential as air, water and food. Ayurveda texts enlisted it as one among the three pillars of life itself along with food and celibacy². They have given such high status to proper sleep that it is explained as the cause for happiness, nourishment, strength, vigour, intellect and life and if done in an improper manner leads to lose of all the above things³.

Like most of the things in life, if done improperly sleep also acts as a cause of many diseases of mind and body. The improperness can be in the time of sleep, quantity of sleep or its quality. It should not be in excess or lacking and preferably only during the night which is in accordance with our biological clock (circadian rhythm). In modern science there is explanation of a number of sleep disorders as both symptom or cause of many other conditions. Sleep apneas, excessive sleep (hypersomnia), lack of sleep (insomnia), uncontrollable sleep (narcolapcy), night terrors, sleep walking and movement disorders during sleep are a few such conditions. Ayurveda deals about mainly two kinds of sleep disorders viz; *anidra* (lack of sleep) and *atinidra* (excess of sleep). Among them insomnia or *anidra* is one of the major health concern that is affecting about 31.6% of the world's population⁴ and 18.6% of south Indian population⁵. In this article an attempt has been made to throw light upon the concept of insomnia in an ayurvedic perspective.

PHYSIOLOGY OF SLEEP

Humans spend about one-third of their lives asleep. It is the part of the circadian rhythm. It consist mainly of two stages; the rapid eye movement (REM) sleep where the dreams are seen and the non-rapid eye movement stage (NREM) which is the deep sleep and occupy about 70 – 80 % of the total sleep. Both these

stages follow each other in a pattern. 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 the other hand is not completely inactive having distinct electrical activity in each stage. These are controlled by the different sleep centres in the brain major of which are the Raphe Nucleus and Locus ceruleus of pons⁶ 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 proper quality and quantity of sleep.

Being one among the pillars of life, an elaborate explanation can be found in the Ayurvedic authoritative texts on the formation of sleep. It is said that when the mind is tired and gets detached from the sense organs and the external stimuli then the person goes to sleep⁷. Other factors that are explained as being essential for the production of sleep are the *tamoguna* covering the heart which is the seat of consciousness⁸ and *kaphadosha* accumulation of the body channels⁹. Furthermore there is also the enumeration of different types of sleep according to its cause as that due to *tama*, due to *kapha*, due to the exhaustion of mind and body, due to external factors, due to any other disease and that due to the nature of night¹⁰. Except the sleep at night all others are considered to be pathological. Apart from these references there are also descriptions of different type of sleep related symptoms in different diseases all throughout the ayurveda literature.

INSOMNIA

Insomnia is a sleep disorder where people have trouble sleeping. They may have difficulty fal-

ling asleep, or staying asleep as long as desired. Insomnia is typically followed by daytime sleepiness, low energy, irritability, and a depressed mood. It may result in an increased risk of motor vehicle collisions, as well as problems focusing and learning. Epidemiologically it is more prevalent in higher age group and in women. Studies suggest that it can also be a precursor in many of the psychiatric disorders.

Types

Depending upon its cause, insomnia can be either

1. Primary – not caused by any other condition
2. Secondary – which occur as a result of any other pathology or external factors.

Pathology

In both the types of insomnia it has been noted that there is an increase in the cerebral and cognitive activity thus leading to lower levels of serotonin and melatonin. This in turn leads to the state of disturbed sleep, incomplete sleep or complete insomnia.

Diagnosis¹¹

The diagnosis can be done in three ways

1. Taking history from the patient
2. Third party information
3. Other methods for further assessment

While taking the history it should include his daily routine, detail description of sleep, ability to do day to day work and details about the onset duration etc. of the complaint. The main symptoms commonly enumerated by the patients are difficulty falling asleep, maintaining sleep, or non-refreshing sleep. To be considered as a disease the sleep disturbance has to occur at least three times per week for one month and should result in marked personal distress or interference with personal functioning in daily

living. It is primary insomnia if there is absence of any known causative organic factor, such as neurological or other medical condition, psychoactive substance use disorder or a medication [ICD 10- DIAGNOSTIC CRITERIA]

Third party information refers to the things told by anybody close to the patient who has observed that person in his sleep. It can be any family members, roommates, spouse etc. They can provide information about the things like any breathing problems during sleep, nature of motor activity, frequency of occurrence, recent mood changes or any recent changes in use of drugs and alcohol.

Other methods of assessment of insomnia include the maintenance of a sleep diary, video recording of the person while he is sleeping, use of actigraphy to monitor his rest and activity cycle or even in some cases polysomnography where different parameters of the body like brain activity, blood oxygen level, heart rate, breathing, motor activities etc. are recorded throughout the sleep of the person.

General management strategies

Since in most of the cases primary insomnia has a psychological factor involved, the best ways to manage it is by proper education about sleep and relaxation training. Maintaining sleep hygiene like establishing good sleeping habits and stimulus control may also be beneficial. Restriction of sleep during day time and proper exercise can also promote induction sleep properly at night due to exhaustion. If these methods fail to bring about sleep and the problem is really affecting the daily life of the person then medications can also be opted but should be monitored.

INSOMNIA IN AYURVEDA – ANIDRA

Anidra or *nidranasha* is a condition which is predominantly a disease due to *vata dosha*. It

may be physiological to some people with *vata* predominant body constitution or may be pathological. Primary insomnia is enlisted as one among the eighty *vata nanatmaja vikara*¹², whereas there *anidra* can also be seen as a

symptom of many other diseases depicting secondary insomnia. **Table 1** show the list of diseases where sleeplessness has been told as an associated symptom.

Table 1: Anidra as a Lakshana in various diseases

SROTAS	DISEASE	REFERENCE
Pranavaha	<i>Parshvashoola</i>	Su.Ut 42/119
	<i>Kaphaja rajayakshma</i>	A Hr.Ni.5/18
	<i>Tamaka swasa</i>	Cha.Chi17/59
Udakavaha	<i>Pachyamana sopha</i>	A.Hr Su 29/4
	<i>Vatika trishna</i>	Cha.Chi22/12
Annavaaha	<i>Visuchika</i>	Ma.Ni 6/25
	<i>Vidahyamana guda</i>	Cha.Chi 5/49
Rasavaha	<i>Amavata</i>	Ma.Ni 25/10
	<i>Vataja hridrog</i>	A.Sam.Ni 5/43
	<i>Udara poorvaroopa</i>	Cha.Ni1/33
	<i>Vatodara</i>	Cha.Ni 1
	<i>Pittodara</i>	Su.Ut 39/31
	<i>Vatapittodara</i>	Ma.Ni 2/14
	<i>Kama Jwara</i>	A.hr.Ni 2/42
	<i>Madatyaya</i>	Cha.Chi 24/103
Raktavaha	<i>AsadhyaVatarakta</i>	Ch.Chi 29/31
	<i>PittajaVisarpa</i>	Ch.Chi 21/32
	<i>VatikaUpavishtaka</i>	A.Sam.Sha 4/16
Medovaha	<i>Vataja prameha</i>	Su.Ni 6/13
	<i>Paittika prameha</i>	Su.Ni 6/13
Majjavaha	<i>Vatavyadhi</i>	Ch.Chi 28/21
Manovaha	<i>PaitikaUnmada</i>	Su.Ut 62/19
	<i>AadhijaUnmada</i>	A.Hr.Utt 6/16
	<i>Apasmara poorvaroopa</i>	Su.Ut 61/17
	<i>Devagraha</i>	Su.Ut 60/8
	<i>Rakshasa graha</i>	Cha.Chi 9/20
	<i>Bala graha</i>	Su.Sha10/51
	<i>Skandapasmara</i>	A.Hr.Ut 3/11

(Su.Ut – Sushruta samhita uttartastra, A Hr.Ni.- Ashtanga hridya nidanasthana, Cha.Chi- Charaka samhita chikitsasthana , A.Hr Su- Ashtanga hridya sutrasthana, Ma.Ni.-Madhava nidana, A.Sam.Ni.- Ashtanga samgraha nidanasthana, Cha. Ni.- Charaka samhita nidanasthana , A.hr.Ni- Ashtanga hridya nidanasthana, A.Sam.Sha – Ashtanga samgraha shareerasthana, Su.Ni –Sushruta samhita nidanasthana, A.Hr.Utt - Ashtanga hridya uttartastra, Su. Sha – Sushruta samhita shareerasthana)

Aetiological factors

Like most of the disease the reasons for *anidra* can also be classified commonly as *aharaja*

(dietary), *viharaja* (due to activities), *manasika* (psychological). Even then there are five causative factors specifically told for *anidra* viz. *Karya*

(activities), *kala* (time), *vikara* (pathology), *prakruti* (nature) and *vayu*¹³.

It is said that when a person is excessively indulged in any activity sleep does not occur¹³. It can be either mental stress or even internal metabolism. In the present society it can be seen in the form of addiction to electronic media especially during night. This may also include the burden on the digestive system by consumption of heavy food and thus keeping it active.

Time is a very important factor in the functions of our body. There is a specific biological clock in the body according to which the body activities are organized. This is called the circadian rhythm. When this is altered then there is abnormality in all the functions of the body including sleep. Late night job shifts are also considered as a major cause in the alteration of the natural sleep pattern. *Kala* can also be interpreted as the phase of life like old age¹³. Old age and menopause have been found to have a deleterious effect on both the quality and quantity of sleep. This may be due to the altered levels of neurotransmitters in these conditions. It has also been noticed that sleep gets reduced during summer seasons.

Vikara word stands for all the disease conditions like any kind of pain those results in difficulty to sleep¹³. Apart from the diseases mentioned in **Table 1** any kind of pain due to injury or emotional pain can result in improper sleep.

Some people even by their basic nature have less sleep. Such reasons are told as *prakruti*¹³. These include mostly individuals with *vata-japrakruti* and a predominance of *rajas dosha* of the mind.

Vayu, even though a part of all the other causes, has been mentioned separately owing to its importance in the pathophysiology of *anidra*¹³.

Signs and symptoms

Sleeplessness is itself a symptom of many a number of diseases. It is also the defining symptom of the disease *anidra*. It may sometimes be associated with other systemic signs and symptoms like body ache, heaviness of head and body, repeated yawning, indigestion, drowsiness, mental confusion, lethargy, tiredness etc. In long run it may also result in different *vatavyadhi* (neurological disorders)¹⁴.

Aetiopathogenesis

Because of etiological factors, there is *vridhhi* (increase) of *vata* and *pitta dosha* followed by decrease of *kapha*. Simultaneously *rajoguna* gets aggravated leading to decrease of *tama*. Hence there is a lack of the major factors inducing sleep. This in turn leads to a deprivation of *kapha* and *tama* in *hridaya* which is a seat of consciousness. This further manifests *anidra*.

Management

Ayurveda provides a broad spectrum treatment protocol for treatment of insomnia. It is mainly treated based on *dosha* vitiation and *prakriti* of a person. Treatment is based on *ahara* (food), *vi-hara* (lifestyle) and *ausadha* (medication). Balanced diet balances mind & body thus leading to a balanced sleep. The main aims of the treatments are to increase the *kapha* and bring about a calming effect.

MANAGEMENT OF INSOMNIA IN AYURVEDA

There are innumerable references on the management of this condition both generally and when it occurs as a result of any other disease. They are to be adopted according to the condition of the patient and the disease. In general all the modalities can be brought under two main categories i.e. *dravyabhoota* (with the help of

any medicine etc.) and *adravyabhoota* (without any medication like counselling).

Dravyabhoota Chikitsa

The management of insomnia using any material aids comes under this category. The main principles of treatment resorted to in this protocol aims at reducing *vata* by the use of substances with *madhura rasa* and *guru guna*. It can also be divided as per the method of use of the *dravya* as *bahyaupachara* (external procedures), *aoushadhiprayoga* (internal medication) and *aharaprayoga* (food intervention).

BAHYA UPACHARA

The external therapies have been given a very important role in bringing back the sleep that has been disturbed. There is a direct connection between the skin and mind. It has been observed that tactile manipulations have been very effective in calming the mind. Many different types of procedures have been explained as treatment of *anidra* like oil massage (*abhyanga*) in different parts of the body, powder massage (*utsadana*), bath (*snana*), oil application on the head (*murdhnitaila*), nourishment of eyes through *tarpana*, application of medicated pate to head (*shirolepa*) and face (*mukhalepa*) etc¹⁵.

Abhyanga, *utsadana* and bath are all procedures that decrease *vata*. Oil massage can be done on the entire body or specifically in the head, ears

and foot. Proper sleep has been enumerated as a benefit of daily oil massage¹⁶. Physical manipulations in the form of massages increase the blood & lymph circulation and remove internal metabolic waste products. Lymph possesses a relatively large amount of the amino acid- Tryptophan (a natural sedative). This causes a parallel increase in the neurotransmitter serotonin. There is also parasympathetic stimulation which induces relaxation.

Murdhnitaila is the collective name given to four different modalities of oil application on the head. It includes *shiroabhyanga* (doing massage), *shirodhara* (pouring of oil or any other liquids from a particular height as a steady flow over the forehead), *shirothalam* (application and retentions of medicated paste or oil soaked cloth over the head) and *shirobasti* (retention of large quantity of oil on top of the head for some time). Clinically *shirodhara* can be very effective and beneficial in insomnia. It can be done with different kinds of liquids like milk, buttermilk, decoction, oil etc. according to the condition. Liquid poured from the height does the stimulation of *sthapani marma* and relaxation of frontalis muscle. It also stimulates the pituitary gland and thereby decreasing the activity of sympathetic nervous system. The different types of *murdhnitailas* and their beneficial effect in insomnia are given in Table 2.

Table 2: Types of murdhni taila and their effect

Murdhinitaila	Benefit
<i>Shiroabhyanga</i>	Stimulation of skin receptors
<i>Shirodhara</i>	The fluid falling from height decreases the activity of sympathetic nervous system
<i>Shiropichu, talapothichil</i>	Retention of medicated paste over the head; increased absorption, soothing effect
<i>Shirobasti</i>	Retention of oil; pressure effects; calming effect

The different drugs and formulation for these procedures are to be selected according to the condition of the patient and the associated symptoms. Some examples include *Himasagara taila*, *Brahmi taila*, *Jatamayadi choorna*, *Amalaki choorna* etc.

OUSHADHA PRAYOGA

Insomnia being a psycho-somatic disorder should be treated after the proper assessment of the cause. If the vitiation of the body *dosha* is evident, then it can be treated by the use of different formulation according to the condition. Given below in **Table 3** are some common formulations used.

Table 3: Different formulation used in Anidra

<i>Ghrita</i>	<i>Kashaya</i>	<i>Ksheerapaka</i>	<i>Arishta</i>	<i>Vati</i>
<i>Brahmi ghrita</i>	<i>Drakshadi kashaya</i>	<i>Vidaryadi ksheerapaka</i>	<i>Ashwagandharishta</i>	<i>Manasamitra vati</i>
<i>Kalyanaka ghrita</i>	<i>Brahmidrakshadi kashaya</i>	<i>Aswagandha ksheerapaka</i>	<i>Saraswatharishta</i>	<i>Nidrodaya rasa</i>
<i>Aswagandha ghrita</i>	<i>Mrudweekadi kashaya</i>	<i>Yashtimadhu ksheerapaka</i>		<i>Sarpagandhaghana vati</i>
<i>Saraswatha ghrita</i>	<i>Vidaryadi kashaya</i>	<i>Jatamamsi ksheerapaka</i>		
		<i>Jatipatri ksheerapaka</i>		
		<i>Ahiphena ksheerapaka</i>		

AHARA PRAYOGA

Food is also a very important part of the treatment of diseases. It has been called the supreme medicines (*mahaoushadha*) by Acharya Kashyapa . Being one of the pillars of body along with sleep it is said to be the cause for both the body and its diseases [aharasambhavam]. Many food have been specified in the management of *anidra* like meat soup of aquatic animals, rice, curd, milk, unctuous foods, limited quantities of alcohol etc¹³. Among the milks the buffalo milk is told to be specifically slept inducing. Other food items which has cooling and nourishing properties like grapes, butter, sugarcane juice, sugar *payasa* etc. can also be consumed. Foods that are to be avoided include those which increase the *vata* and *pitta* in the body and *rajas* in the mind. They are food items that are very spicy or penetrating in nature and those which cause burning sensation in the body.

According to modern science junk foods which hamper digestion and food that stimulates the brain like those containing caffeine, monoso-

dium glutamate (food additive) alcohol and nicotine should be avoided. Foods rich in proteins and essential fatty acid like milk, legumes, almonds, fish etc. help in maintaining the levels of the neurotransmitters serotonin and melatonin.

Adravyabhoota Chikitsa

Both Ayurveda and modern medicine stress up on the important role of mind in the process of sleep. Hence the *adravyabhoota* treatment modality largely consists of relaxation techniques, mental ability boosting and mind calming techniques along with a few exercises and yoga practices. The treatment of mental disorders in Ayurveda has been explained as enhancing the *jnana* (Insight oriented approach), *vijnana* (Educative approach), *dhairya* (Supportive approach), *smriti* (Cognitive approach) and *Samadhi* (Psycho-philosophical approach) of the person¹⁷. This can be effective in not only the management of insomnia but also in preventing

any psychiatric conditions that may be on the way.

Other activities that can be helpful in proper induction of sleep are adequate exercise, lying down on comfortable bed, pleasant music or aroma etc.¹⁵ Physical activity can be in the form of yoga asana like *sooryanamaskara*, *makarasana*, *tadasana* etc. Physical activity can help in bringing about exhaustion and thus sleep. Practising *pranayama* daily can bring about a calming effect in the mind and thus help to fall asleep. Another important yogic procedure that has been found to be extremely beneficial in insomnia is the practice of *Trataka*. In this technique the person has to look continuously without blinking at a particular point or flame etc. till tears are produced. Hence when done just before sleep in a dark room improves concentration and also bring about sleep.

CONCLUSION

Sleep is a natural phenomenon which gives adequate rest to body and mind. *Nidra* is mentioned among the *sadvritta* and also treatment for many diseases. The quality and quantity of sleep is deranged by both *shareerika* and *manasikadosha*. Equal importance has been given for the physical and psychological practices in the prevention as well as cure for insomnia. As *nidra* is one of the supporting pillar of life and door way to be healthy and hence it should be managed through holistic approach.

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