

CONCEPT OF NIDRA (SLEEP) – A SCIENTIFIC REVIEW

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ABSTRACT

Sleep and health are closely related to each other, it plays an important role in maintaining physical as well as mental health. It allows our mind and body to recharge. One-third of a human's life is spent sleeping. Quality sleep is an indicator of good health as it relieves stress and refreshes the body. India is the 2nd most sleep-deprived country in the world. Sleep disorder prevalence has increased considerably in Covid-19 which leads to Coronosomnia. In Ayurveda sleep i.e., *Nidra* is considered one of the three pillars of life. *Nidra* is the second most important pillar for human beings after food. It is one among the 13 *adharniya vegas*. It is called *Bhutadatri* in Ayurvedic texts as it is considered an important part of one's lifestyle. Ayurveda is the science of life, which explains the daily routine and rules to be followed by individuals to stay healthy. *Nidra* being a day-to-day phenomenon, ayurvedic texts have detailed information about its definition, types, physiology, and health benefits.

Keywords: *Nidra*, *Upastambha*, Sleep, *Bhutadatri*, Coronosomnia.

INTRODUCTION

Sleep is an essential and indispensable domain for a healthy lifestyle. Sleep and health are closely related

to each other, it plays an important role in maintaining physical as well as mental health. It allows our mind

and body to recharge. According to National Sleep Foundation, healthy adults need around 7 to 9 hours of sleep per night.¹ In the present era of the digital age the rise of information and communication technologies has impacted human health. Every year since 2008, **World Sleep Day** is being celebrated on Friday before the March Equinox by the world association of sleep medicine.² About 67% population of the world is using portable technological devices like mobiles, laptops, etc. which has adversely affected the sleep quality and quantity. India is 2nd most sleep-deprived country in world's³ The prevalence of sleep disorder has increased considerably in the Covid-19 pandemic and approximately affects 40% of people from general and healthcare populations leading to **Coronosomnia**.⁴ In Ayurveda, sleep has been considered as one of three supporting pillars that sustain life, i.e, *Ahara, Nidra, And Bharna* Acharya.⁵ Acharya Charak has mentioned sleep as one among the 13 *adharniya vegas*.⁶ In Ayurveda, *Nidra* is considered a *brimhana* (nourishing) agent that promotes physical and mental health and enhances immunity. Sleep is described in detail in chapter 21 *Ashtoninditiya adhyaya* explains its importance in the life of a healthy person i.e, if a person does not get proper sleep he may suffer from these harmful diseases.⁷ Acharya Sushruta and Acharya Vagbhatta also explain what exactly *Nidra* is and its importance. If we think carefully, then *Maharshi Patanjali* has also mentioned it in *Ashtang Yoga, Yama, and Niyama* which are equivalent to *Ahara, asana, and pranayama* which are equivalent to *Brahmacharya*, and the other four parts are associated with a brain which is affected by sleep.

1. MATERIAL AND METHODS

Materials related to *Nidra* and Sleep physiology have been collected from Different journals, Ayurvedic textbooks, authentic websites (Pub Med, etc.), Reputed Magazines, Authentic literature, Manuscripts Sanskrit Dictionary, etc.

3.1 Etymology

- The term *Nidra* 'origin as —*nindyate iti Nidra*⁸
- The word *Nidra* 'is derived from *nind+ ruk+tap= na lopa*.⁹

It means “Nothing is harm”. Upanishads also have an explanation about *Nidra* while explaining about diff. types of *avastha*, like *Jagrutavastha, Swapnavastha, Sushiptavastha, and Trutiyavastha*.¹⁰

3.2 Definition

The definitions given in various ancient texts are as Follows –

- Sleep is a mental activity that lacks sensation for its grasp. *Acharya Vyas* has made a statement that - “sleep is a state of unconsciousness, but the consciousness remains about his unconsciousness.”¹¹
- Statement by “*Mandukya Upanishad*”, *Nidra* is a state in which “*Atma*” has no dream or desire for anything, and that state is called “*susupti*”.¹²
- *Acharya Charaka* affirmed that one becomes sleepy when the mind (as well as the soul) is exhausted or inactive and the sensory and motor organs are inactive.¹³
- *Acharya Sushruta* described the sleep occurs when the *Hridaya*, the seat of *chetana* is covered by *Tamas*.¹⁴
- *Sushruta's* commentator *Acharya Dalhan* says that - Sleep is that state of the union of mind and intellect in which a person experiences happiness.¹⁵
- According to *Astanga Sangraha* commentary, which states that when an individual fall asleep, *Manovaha Srotas* become accumulated with *sleshma*, and the mind is devoid of sense organs because of fatigue.¹⁶

3.3 Concept of Sleep

A person falls asleep when his mind including the sensory and motor organs gets exhausted, and they dissociate themselves from their objects.¹⁷

Types Of Nidra: The types of *Nidra* are different according to different *Acharyas*.

Sl. No	Charaka ¹⁸	Sushruta ¹⁹	V. Vagbhata ²⁰	Vagbhata
1)	Tamobhava	Tamasi	Kalawabhabavajanya	Mithyayoga
2)	Shleshmo Samudbhava	Swabhavaki—a) Tamobuyishta b) Rajobuyishta c) Satwabhuyst	Amayaja	Hinayoga
3)	Manashramasambhava	Vaikariki	Chittakedodbhva	Atiyoga
4)	Shareashrama sambhava		Dehakedodbhava	Samyakyoga
5)	Aaguntaki		Shleshmaprabhava	
6)	Vyadinuvarini		Agantubhava	
7)	Ratriswabhaba Prabhavaa		Tamobhava	

1. *Tamobhava*: The sleep caused by increased Tamas.
2. *Shleshmasamudbhava*: The sleep caused by vitiated *Kapha*.
3. *Manashshareer sambhava*: The sleep caused by exhaustion of body and mind.
4. *Agantuki*: Produced during bad prognostic indication occurring before death.
5. *Vyadhyanuvarini*: That which occurs as a subsequent complication of the disease.
6. *Ratriswabhabprabhva*: That which occurs during the night is physiological

3.4 In contemporary science Sleep is of two types²¹:

1. Rapid eye movement sleep or REM sleep
 2. Non-rapid eye movement sleep, NREM sleep, or non-REM sleep
1. Rapid eye movement sleep or REM sleep: In REM state of sleep, all the muscles are in a state of rest. But in this state dreams come. This state is also called paradoxical sleep. In this state, the brain continues to work even while sleeping.
 2. Non-rapid eye movement sleep, NREM sleep, or non-REM sleep: In contrast, during non-REM sleep, which is called deep sleep, the mind remains completely calm. So, at the beginning of sleep, the first stage is NREM, then REM. This change happens many times during the entire sleep period.

4. RESULT:

Sleep is not only responsible for a healthy mind, but it is equally responsible for a healthy body as well. Therefore, sleep plays an important role in

“*swasthasya swath rakshanam and aturasya vicar prasamanam*”.

5. DISCUSSION

Sleep is an *Ayurveda* that has claimed long life (*Jivita*) and death (*Ajivita*) factors are dependent on *Nidra* which is the second main pillar of life. The *Ayurvedic* and modern views related to sleep can be correlated as follows: Two processes have been described for sleep, one due to physical fatigue and the other due to the secretion of the hormone melatonin²². The first process is called Physical fatigue-induced sleep i.e. *Shareashrama Sambhava Nidra*. In this, due to the breakdown of ATP, the excess amount of adenosine is accumulated which induces sleep.²³ Excess activity during the daytime helps produce sleep at night. We can say that if fully physical labor is not done during the day, then even sleep does not come properly during the night. The second process, *Ratriswabhaba Prabhava Nidra* i.e. Natural sleep (sleeping at night). *Ratriswabhaba Prabhava Nidra* (sleeping at night) is the best form of sleep. This is also known as *Bhutadhatri*, or “that which nurses all the living beings. The day-night cycle is the signal generated by the reception of light, which reaches the brain and controls the secretion of a hormone called melatonin which induces sleep. This hormone is formed only at night and is destroyed during the day. The control center of sleep is located in different parts of the brain and has different types of secretions. These secretions are called neurotransmitters. Norepinephrine, serotonin, and histamine are the main

secretions that maintain wakefulness. Opposite it, GABA is sleep-inducing secretion. It decreases the productivity of the mind.

The meaning of Circadian Rhythm²⁴ is seen by connecting it to the state of sunrise, as the process of rising and setting of the sun affects the neuron called SCN in the brain. Its activity is affected by light, so there is no sleep during the day. If there is a lot of light even at the night, then this center does not work, and sleep does not come. From this center, the melatonin hormones released from the pineal gland are controlled. This hormone produces sleep. Like this, the cycle of *Vata, Pitta, and Kapha* runs in the body, like sleep in *Kapha Kaal*. But a similar daily cycle runs in every organ, which is called Circadian rhythm. This physical cycle runs according to the cycle of the Sun and affects various activities of the body. Therefore, when there is no coordinator in this inner and outer circle, then diseases occur. It is considered good to have about 7 to 8 hours of sleep time. The state of awakening and sleep can be known through EEG²⁵. In the awake state, beta waves are produced which are of low amplitude and high frequency because in this state all the neurons of the brain are focused in one direction. In the other state when the person is awake, but the eyes are closed, at this time alpha waves are produced which are of more amplitude. At this time, the person keeps on contemplating something. All the neurons are concentrated but you do not concentrate on any one point due to the closure. Delta waves are produced in the state, which is the highest amplitude, but their frequency is the lowest. In the awake state, there is less glycogen and more adenosine in the brain cells which happens in the opposite state at night Adenosine is formed and accumulates throughout the day, which gradually reduces the process of formation of the awakening hormone, which leads to sleep at night. Adenosine is reduced in the state of sleep and wakefulness hormones are produced and sleep opens.²⁶

Vyadhyanuvartini Nidra (Disease-induced sleep):

The cytokines that are formed by the immune cells during infection induce sleep.²⁷ That's why there is sleep even in fever. In respiratory medicine, theophylline does not cause sleep because it works by reducing

the adenosine action. Coffee, tea, amphetamine named substance maintains a state of wakefulness by blocking the action of adenosine and preventing sleepiness. Happiness and misery, nourishment and frailty, strength and weakness, fertility and infertility, knowledge and ignorance, and longevity and death depend on proper (and improper sleep).²⁸ Untimely excessive sleep and lack of sleep take away both the happiness and longevity of a person. Similarly, proper sleep brings about happiness and longevity in human beings just as real knowledge brings about spiritual power in yogis.

Deficiency of *Nidra* causes various types of diseases such as skin diseases, heart diseases, decrease in weight, lack of thyroxin, fall in body temperature, excess of norepinephrine, etc. Due to this, it has a bad effect on diabetes and heart disease. During sleep, all the functions of the body are relaxed and at this time the work is done to repair the damage done to the cells due to working throughout the day. Ideal sleep plays an important role in combating lifestyle disorders and leading a healthy life.

6. CONCLUSION

Sleep plays an important role in good health and well-being throughout your life. Getting enough quality sleep at the right times can protect your mental health, quality of life, and safety. Sleep disease includes both lack of sleep at night and more sleep during the day. Waking up often increases the tendency to overeat, due to which the people get overweighted. Daily activities lead to the digestion of biochemical substances collected in the blood and various cells. This can be compared with ama deposition and its digestion.

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