

THE CONCEPT OF NIDRA AND SLEEP PHYSIOLOGY

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ABSTRACT

All human beings required sleep as much as they require food. In Ayurveda there are three tripods of life i.e. aahar, nidra and brhamacharya. Proper amount of sleep is essential for all the day to day activity. Either less or more sleep is harmful, can lead to many diseases. sleep not only affects physical health but also affects mental health. so, it is important to know the reasons of nidra, importance of nidra, types of nidra explained in ayurved classical texts. also it is necessary to study physiology of sleep from modern literature. in this article we are going to study nidra explained in Ayurveda and sleep physiology.

KEYWORDS: Nidra, types of nidra, sleep physiology.

INTRODUCTION

Ayurveda is ancient science of life which focuses on physical and mental health. aahar, nidra and bhrhmacharya are three tripods of life.^[1] Sleep is naturally state of mind and body, characterized by altered consciousness, relatively inhibited sensory activity. sleep relaxes mind and body. Acharyas have explained important role of nidra and its relation with different prakriti. ayurveda gives proper lifestyle to attain maximum health benefits. to stay healthy one must understand rutucharya, dincharya and ratricharya. out of this that ratricharya includes nidra. if we don't follow rules of nidra mentioned in Ayurveda it leads to many lifestyle disorders and also mental health is disturbed.

DEFINITION

This is a state of nature which causes encapsulation to the consciousness of a person – by amarkosh^[2]

Nidra is of kafa and tamoguna^[3]

Acharya Charak affirmed that when the mind (as well as soul) gets exhausted or becomes inactive and the sensory and motor organs become inactive then the individual gets sleep.^[4]

Acharya Susruta, described the sleep occurs when the Hridaya, the seat of chetana is covered by Tamas.^[5]

Acharya Dalhana, the commentator of Susruta states, that- Nidra is the state of combination of mind and intellectual in which the person feels happy.^[6]

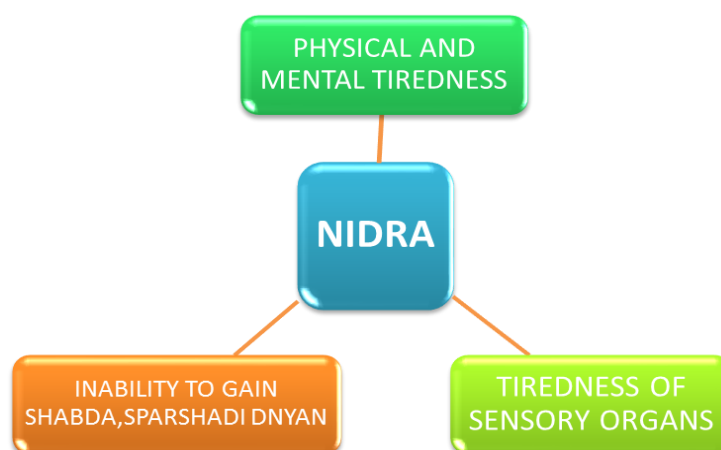
According to AstangaSangraha commentary, stated that, the manovaha Srotas become accumulated with sleshma and mind is devoid of sense organs because of fatigue, when individual fell asleep.^[7]

MATERIAL AND METHODS

1. Materials related to Nidra collected from different ayurved classical texts, journals, dictionary, etc.
2. Material related to Sleep physiology collected from modern textbook, Different journals, authentic websites, etc.

REASONS WHY WE GET SLEEP

Achayya charak mentioned why we fall asleep



Hridya (Heart) is seat for satva, raja, tama guna. Hridayis also place for mind. tamoguna increases in hridya that's why we fall asleep and physical activitiestoped. tamoguna is responsible for sleep while satvaguna is the reason for awakening.^[9]

TYPES OF NIDRA

AACHARYA CHARAK^[10]	SUSHRUT	VAGBHAT
Tamobhava	Vaishnvi	Tamobhava
Shleshmasamdbhava	Vaikariki	Aamayakhedaprabhavaja
ManasharirashramaSambhava	Tamsi	Chittakhedaprabhavaja
Agantuki		Kaphaprabhavaja
Vyadhyanuvarin		Dehakhedaprabhavaja
Ratriswabhavaprabhava		7 Kalasvabhavaja

1. **Tamobhava:** Due to tama guna increases in body.
2. **Shleshmasamdbhava:** Due to increase in kafadosha
3. **Manasharirashrama Sambhava:** Due to tiredness of mind and body
4. **Agantuki:** Other than diseases like due to awakening till late night and alcohol consumption
5. **Vyadhyanuvarin:** Due to some diseases
6. **Ratriswabhavaprabhava:** At night we normally get sleep, this is nature of sleep.

EFFECTS OF NIDRA ON HUMAN BODY^[11]

	Good effects	Bad effects
1.	Sukha	Dukha
2.	Pushti	Karshya
3.	Bala	Daurbalya
4.	Vrushata	Klibata
5.	Dnyan	Adnyan
6.	Aarogya and dirghayushya	Vyadhi and mrityu

ADHARANIYA VEGA^[12]

There are 13 reflexes in our body such as flatulence, urine, defeaction, sneezing, sleep etc which we don't have to control, sleep is one of them.

So when we get sensation of sleep we should go for sleep, it also helps in digestion process.

According to the **CDC**, the breakdown is as follows:

- Newborns (0-3 months): 14-17 hours
- Infants (4-12 months): 12-16 hours
- Toddler (1-2 years): 11-14 hours
- Preschool (3-5 years): 10-13 hours
- School age (6-12 years): 9-12 hours
- Teen (13-18 years): 8-10 hours
- Adult (18-60 years): 7-plus hours

- Adult (61-64 years): 7-9 hours
- Adult (65+ years): 7-8 hours

Sleep Physiology^[13]

Sleep is natural periodic state of rest for mind and body with closed eyes characterised by partial or complete loss of consciousness. From which the person can be aroused by sensory or other stimuli. The depth of sleep is not constant throughout the sleeping period. It varies in different stages of sleep.

TYPES OF SLEEP

During each night, a person goes through two stages of sleep as following:

1) Slow-wave sleep

This type of sleep is without eye movements so called as NREM (non rapid eye movements). Slow wave sleep is frequently called as 'dreamless sleep'. Dreams and nightmares do occur in this stage but are not remembered.

2) Rapid eye movement sleep (REM sleep)

It lasts about 5 to 30 minutes usually appear on the average 90 minutes.

Heart rate and respiratory rate usually become irregular, which is characteristic of the dream state. The brain is highly active in sleep and overall brain metabolism can be increased by 20%.

SLEEP CENTRES

Two centres located in brainstem, which induce sleep:

1. Raphe nucleus

It is situated in lower pons and medulla. Activation of this nucleus results in non-REM sleep. It is due to release of serotonin by nerve fibres arising from nucleus.

2. Locus ceruleus of pons

Nor-adrenaline released by the nerve fibres arising from locus ceruleus induces REM sleep.

Physiological Effects of Sleep

Sleep causes two major types of physiologic effects: first, effects on the nervous system itself, and second, effects on other functional systems of the body.

Lack of sleep certainly does, however, affect the functions of the central nervous system. Prolonged wakefulness is often associated with progressive mal function of the thought processes and sometimes even causes abnormal behavioral activities.

Therefore, we can assume that sleep in multiple ways restores both normal levels of brain activity and normal "balance" among the different functions of the central nervous system. overuse of some brain areas during wakefulness could easily throw these areas out of balance with the remainder of the nervous system.

We might postulate that the principal value of sleep is to restore natural balances among the neuronal centers.

THEORIES OF SLEEP^[14]

1. Vascular Theory
2. Pavlov's Theory
3. Chemical Theory
4. Kleitman's Theory
5. Oxygen Theory
6. Hypothalamus Theory
7. Parasympathetic Theory (Acetylcholine Theory - Dixit)
8. Lactic Acid Theory
9. Serotonin Theory
3. 10.Neuronal Centers theory

IMPORTANCE OF NIDRA^[15]

Sleep is vital and always neglected, componenr of every persons overall health and well being.

1. Sleep is very important for all the activities of body.
2. It is as important as we need food. becausekrushata(lean body) and sthaulyata(obesity) depends only on food we are taking and sleep.
3. Aahar, nidra, brahamacharya are 3 pyramids of life and sleep is one of them.
4. Digestion and defecation also regulated by sleep.
5. It enables body to repair and to be fit and ready for next day.
6. Sleep is necessary for better productivity and concentration
7. Prper sleep lowers weight gain, cardiac issues, hypertension, depression

DISCUSSION

Nidra is a subject to be taken seriously. it is one of the trayopastambh mentioned by our aacharyas, itself told how much important the sleep is nidra affects both physical and mental state. Nowadays due to busy lifestyle or schedules most of the people are not getting required sleep that too on specific time. stress, anxiety, depression also affects sleeping time. It leads to many physical and mental disorders. Even it leads to many serious health issues.

CONCLUSION

In today's era it is a very important thing to be focused on sleep. because everyone is having busy schedules, workload, overuse of mobiles, late night awakening is very common among youngsters. sleep patterns often differ. Nidra is important to maintain physical as well as mental balance of life. Sleep is important to maintain healthy life. so, one should take good amount of sleep for physical and mental health.

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