



RATRIJAGARANA (SLEEP DEPRIVATION): A MENACE FOR LIFESTYLE DISORDERS—A REVIEW

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ABSTRACT

In today's era of industrialization, due to unwanted, unhealthy competition, everyone is living a stressful life. In such a situation naturally, the attention towards maintaining health is significantly reduced. We compromise with our natural sleep for better economic gain. *Ratrijagarana* (Sleepless nights) can result in significant social and family problems, and it is an important risk factor for various lifestyle disorders. Sleep disruption can lead to many chronic conditions like Diabetes Melitus, Cardiovascular diseases, Obesity, etc which are various types of lifestyle diseases. Not only that, but they also suffer from behavioral, and psychiatric problems like anxiety and depression and poor concentration at work, even though there are increased chances of road accidents. They are more prone to vulnerable infections because of the suppression of the immune system which is due to the deficiency of sleep. *Nidra* is an essential phenomenon for the maintenance and restoration of both the mind and body for living beings in the world. This article aims to highlight the importance of *Nidra* for healthy living and the effects of sleep deprivation on health. For this, the data were collected from Classical texts, different scholarly articles, etc.

Keywords: *Nidra*, *Ratrijagarana*, lifestyle disorders

INTRODUCTION

Ahara, *Nidra*, and *Brahmacharya* are the three main pyramids of life, which play a vital role in the maintenance of health in human beings¹. The inclusion of *Nidra* in the three *Upastambha* establishes its significance. Again, it comes from a non-suppressible urge (*Adharneeya Vega*). If it is suppressed, then it can cause headaches, body pain, heaviness in the eyes, etc. Getting enough *Nidra* (sleep) at the right times promotes happiness and high quality of life. Proper *Nidra* protects the body's growth and development (*Dhatu Pushti*). *Nidra* facilitates proper learning capacity (*Gyan*). Again, *Ojas*, which are responsible for our body's immune system, also rely on sleep to stay healthy. Sleep deprivation can have an impact on the body, causing tension to rise and emotional well-being to suffer. Ongoing sleep deficiency, which mainly occurs due to late-night studying or night duty in different professions, may raise the risk of some chronic health problems. In Ayurvedic classics, several diseases occur due to *Nidra Viparyaya* (improper sleep), *Prajagaran* (whole night awaking), and *Divaswapna* (day sleep). *Nidra Viparyaya* is one of the causes of *Vatavyadhi*. *Vatavyadhi* is the most important Ayurvedic classic and covers nearly 50% of diseases. Some lifestyle diseases like *Madhumeha* (Diabetes mellitus), *Sthoulya* (obesity), etc. can occur due to improper sleep.

Material And Methods: The data used for this research was gathered from Ayurveda classics, scholarly articles, books, and information available on the internet.

Nidra: The concept of *Nidra* cannot be explained in a concise form. From time immemorial, a question has arisen: what is sleep, how does it occur, and what is its role in health? There are different views

regarding sleep, but all together, it is considered one of the essential functions of living beings. In the *Sarangadhara Samhita*, *Nidra* is defined as the state where the predominance of *Kapha* and *Tamas* is seen². While explaining *Nidra*, Acharyas stated that sleep is responsible for delight and sorrow, growth and wasting, strength and weakness, virility and impotence, knowledge and ignorance, as well as the survival and termination of life³. Acharya Charaka has mentioned *Nidra* as *Bhuta Dhatri*, which occurs naturally at night. It will also help in the nourishment of all living beings⁴. In *Susruta*, he calls this *Nidra Vaishnavi Maya* in a metaphoric language, which is a physiological process that provides nourishment to the living body and maintains health⁵. Proper and sufficient *Nidra* provides the individual with *Bala*, *Varna*, and *Vrsata*. The life span of such people may extend to up to a hundred years. Proper sleep leads to an increase in *Agni* and *Dhatusamya*. *Yogaratanakara* has mentioned four natural instincts or basic needs for human beings. These are the desires to have food, water, sleep, and sexual pleasure⁶. *Bhavaprakasha* has described the importance of sleep-in foetal life. He has emphasised that the foetus in the womb enjoys better rest and comfort when the mother sleeps properly during pregnancy⁷. Acharya Kashyapa states that one who attains proper sleep at the proper time is one of the characteristics of a healthy man⁸. Sleep, which is taken at the proper time, is an indicator of good health because it brings normalcy to body tissues and relaxes the person. Like *Ahara*, adequate sleep is essential for the maintenance of the body. Classification of *Nidra* by different Acharyas as follows (Table no.1) –

Table 1: Classification of *Nidra* by different Acharyas.

Sr.No	Acharya Vagbhata ⁹	Acharya Charaka ¹⁰	Acharya Sushruta ¹¹
1	<i>Tamobhava</i>	<i>Tamobhava</i>	<i>Vaishnvi</i>
2	<i>Aamayakhedaprabhavaja</i>	<i>Shleshmasambhava</i>	<i>Vaikariki</i>
3	<i>Chittakhedaprabhavaja</i>	<i>Manasharira shrama Sambhava</i>	<i>Tamsi</i>

4	<i>Agantuki</i>	<i>Agantuki</i>	
5	<i>Kaphaprabhavaja</i>	<i>Vyadhyanuvartini</i>	
6	<i>Dehakhedaprabhavaja</i>	<i>Ratriswabhavaprabhava</i>	
7	<i>Kalassvabhavaja</i>		

A healthy sleeping pattern is also very important for having a healthy life. A proper sleeping pattern can only provide a comfortable sleep. A person can go to bed to sleep after having a light and healthy dinner. One should use a comfortable bed; it gives proper sleep, nourishment, and pleasure, relieves tiredness, vitiates *Vata*, and is aphrodisiac¹². *Ayoga*, *Mithyayoga*, and *Atiyoga* are the three types of abnormal sleep patterns or *Asamyak Nidra*. Among these, *Mithyayoga* can be considered unhealthy. *Diwaswapna* and *Ratrgarana* are the two types of sleeping habits which are described as totally unhealthy in nature.

Ratrijagarana:

Ratrijagarana or sleep deprivation will lead to the vitiation of *Vata Dosha*, which in turn leads to causing *Rukshata* in the body¹³. *Ratrijagarana* is mentioned as one of the *Vata Prakopa Hetu*. Those who indulge in *Ratrijagarana* can be affected by *Vata* and *Pitta* disorders. *Vata*, in its normal state of functioning, sustains all the organs of the body. It restrains and impels mental activity. It coordinates all the sense faculties and helps in the enjoyment of objects. It is the determining factor of joy and courage. *Prana Vata* is responsible for *Budhi*, *Hridaya*, *Indriya*, and *Chitta* and performs functions such as *Sthivana* (spitting), *Ksavathu* (sneezing), *Udgara* (bleaching), *Nisvasa* (respiration), and *Annapravesha* (deglutition). *Udana Vata* governs speech, *Prayatna* (enthusiasm), *Urjwa* (energy), *Bala* (strength), *Varna* (complexion), and *Smriti* (memory)¹⁴. *Pitta*, in a normal state, is responsible for the normal functioning of *Medha*, *Dhee*, etc. *Sadhaka Pitta* is responsible for *Budhi* and *Medha*¹⁵. Sleep deprivation causes a decrease in attention, a decrease in working memory, a decrease in decision-making, a decrease in vigilance, visual tasks may be affected, and mind-body coordination may be affected. Sleep disorders, which in turn affect physical and psychological health, are becoming a burning

crisis in society and are increasing day by day due to lifestyle.

Lifestyle Diseases: Lifestyle diseases are sometimes called diseases of longevity or diseases of civilization interchangeably. These are the diseases that appear to increase in frequency as countries become more industrialized and people live longer. A lifestyle disease is caused by how a person or group of people live. These are different from other diseases because they are potentially preventable and can be reduced through dietary, lifestyle, and environmental changes. Lifestyle diseases are the result of an ill-relationship between people with their environment. The world health organisation has warned that more than 270 million people are susceptible to falling victim to diseases linked to unhealthy lifestyles. Common lifestyle-related disorders are hypertension, heart disease, stroke, obesity, diabetes, cancer, Alzheimer's disease, gastro-intestinal diseases, etc. **According to WHO**¹⁶, non-communicable diseases (NCDs), of which lifestyle diseases are a subset, claim 41 million lives each year, accounting for more than 70% of all deaths worldwide. Over 15 million of these deaths occur among people aged 30 to 69 years. NCDs claim the lives of 6 million people in India. **The most common Lifestyle diseases in India are Diabetes, Obesity, Hypertension, etc.**

1. Leading the list of lifestyle diseases in India Diabetes is a disease that is spreading rapidly across the country, particularly in urban areas. It increased from a controlled 2% in the 1970s to more than 15% by 2020. Diabetes affects 35 to 40% of residents in metropolitan areas, making the figures even more concerning.
2. Obesity is yet another common lifestyle disease that can affect children. The number of obese people in India more than doubled between 1955 and 2015. 3 Studies revealed that the disease was more prevalent in women. We can only expect

obesity to rise in proportion as sedentary lifestyles become the norm rather than the exception.

3. Hypertension appears to be widespread, particularly in India's eastern and northern regions. Males appear to be at a higher risk of contracting this disease, as do urban residents when compared to rural residents. Stress plays a significant role in the development of this disease.
4. COPD is more common in women, with women aged 36 to 50 being at the greatest risk, about 1.3 times more than their male counterparts. Another disease that can result from pollution exposure.
5. Heart diseases caused by damage to the heart muscle or blood vessels affect a large number of Indians. These issues can be linked to inactivity, smoking, high cholesterol, and diabetes. According to reports, this causes 26% of all deaths in the country.
6. Cancer is one of the diseases that are not often thought of as a lifestyle disease. Many cosmetics and household products, on the other hand, may be carcinogenic, and repeated exposure to these can increase the risk of cancer. Toxin exposure in the environment has been linked to the disease in 20% of cases.
7. Mental health disorders are on the rise, particularly during and after COVID. Lack of social interactions, being cooped up indoors for months on end, drastic changes in life, loss of near and dear ones—the list goes on and on when we consider why these ailments are on the rise in India.
8. Cirrhosis of the liver is a common complaint among heavy drinkers. This ailment has been on the rise among Indians as well, with social gatherings becoming the norm at workplaces and alcohol consumption being viewed as a sign of sophistication.

While these are the most common lifestyle diseases, there are plenty more that can be seen in specific lines of work. For example, orthopaedic complaints are common in those who need to work at their desk for hours without a break. However, while the list of lifestyle diseases may not be exhaustive, there are a

few common causative factors that may lead to one or others.

Causes of lifestyle diseases: These diseases are typically the result of certain habits a person has developed, restrictions and limitations imposed by their lifestyle, or some kind of exposure or lack thereof imposed by their lifestyle. To simplify, we can categorise causes into:

- Tobacco, alcohol, and drugs
- Pollutant exposure at work or home
- Inactivity and restricted movement for extended periods of time
- Habits that cause direct bodily harm (earphones, poor seating)
- Inadequate or unhealthy eating habits (plenty of processed food, little or no nutritive value in the diet, lack of hydration)
- High-stress levels
- Inadequate and/or insufficient sleep

Sleep Deprivation and Lifestyle Diseases:

To function properly, your body requires sleep, just as it does air and food. Your body heals and restores its chemical balance while you sleep. Your brain creates new mental connections and aids memory retention. Your brain and body systems will not function normally if you do not get enough sleep. It can also significantly reduce your quality of life. Daytime fatigue, irritability, excessive sleepiness, frequent yawning, and other symptoms of sleep deprivation are common. Chronic sleep deprivation can cause your body's internal systems to malfunction. For example, your central nervous system is your body's main information highway. Sleep is required for it to function properly, but chronic insomnia can interfere with how your body normally sends and processes information. Sleep deprivation has a negative impact on your mental abilities as well as your emotional state. You may become more irritable or prone to mood swings. It can also jeopardise decision-making and creativity¹⁷. Your immune system produces protective, infection-fighting substances such as antibodies and cytokines while you sleep. These substances are used to combat foreign invaders such as bacteria and viruses. Certain cytokines also aid in sleep, al-

lowing your immune system to be more effective in defending your body against illness. Sleep deprivation prevents your immune system from strengthening. If you don't get enough sleep, your body may be unable to fight off invaders, and recovering from illness may take longer. Long-term sleep deprivation also raises your risk of developing chronic conditions like diabetes and heart disease. Sleep deprivation, along with eating too much and not exercising, is a risk factor for becoming overweight or obese. Sleep influences the levels of two hormones, leptin, and ghrelin, which regulate hunger and fullness. Without enough sleep, your brain decreases leptin and increases ghrelin, an appetite stimulant. The fluctuation of these hormones could explain why people snack at night or overeat later in the evening. Sleep deprivation can also make you feel too tired to exercise. Reduced physical activity can cause weight gain over time because you are not burning enough calories and are not building muscle mass.

DISCUSSION

Sleep is an important factor in maintaining one's health and preventing the onset of diseases. Acharya Kashyapa while explaining the *Swastha Lakshana* mentioned the term "*Sukha Swapna Prabodhana*" which means comfortable sleep is essential to call a person healthy. The amount of sleep required varies. However, the average daily sleep requirement for different age groups is Newborn babies(0-3 months) - 14 to 17 hours, Infants (4-12 months) - 12 to 16 hours, Toddler (1-2 years) – 11 to 14 hours, Pre School (3-5 years) – 10 to 13 hours. School Age (6-12 years) – 9 to 12 hours, Teen (13-18 years) – 8 to 10 hours, and adults (18 years onwards) should sleep 7 or more hours per night¹⁸. Inadequate sleep has been linked with a high probability of the manifestation of various lifestyle disorders such as obesity, diabetes, hypertension, heart disease, and psychological disturbances, according to both classical explanations and modern evidence. Both classical explanations and modern evidence prove that insufficient sleep has been linked with a high probability of the manifestation of various lifestyle disorders such as

obesity, diabetes, hypertension and heart diseases, and psychological disturbances. As per studies, those living in metropolitan cities are getting the worst sleep - one in four Indians feel that they have a sleep disorder. 59% of India's people go to sleep after 11 pm and one of the biggest reasons for this is social media. 36% of people believe that their sleep is affected by digital media. 88% of people agreed that they check their phones just before sleeping. However, in the last year's survey, 92% of the people were doing so¹⁹.

Guidelines for improving the quality of sleep:

The main aims of Ayurveda are *Swasthasya swastha Rakshana* and *Aturasya Vikara prashamana*, i.e., maintenance of the health of healthy people and curing the diseased. As we know that prevention is better than cure, instead of leading our lives into a diseased stage, it is better to prevent the onset of such a condition. As the country develops, economic, physical, social, and environmental changes occur. And also, it is not possible to avoid it in the present era. So, lifestyle modifications play an important role in preventing these conditions. For preventive aspects, Acharya explained many concepts like *Dinacharya*, *Ratricharya*, *Ritucharya*, *Sadvritta*, *Dharaneeya*, *Adharaneeya Vegas*, *Nitya Sevaneeya Dravya*, *Ahara Vidhi*, etc. The Classics clearly state that those who wake up during the night due to work or any other unavoidable circumstance should sleep for half of the awakened hours. Aside from that, those who follow the guidelines below in their daily lives can avoid the occurrence of many lifestyle diseases. They are as follows:

1. Proper sleep-in proper time: *Kala* or time factor is a very important factor in maintaining health. The night is described as a proper time for sleep. The person should not awake at night and should not sleep in the daytime because both result in *Dosha Prakopa*²⁰.
2. Application of oil massage: The application of oil massage will help to improve the quality of sleep and also helps to remove fatigue²¹.
3. Good dietic practices
4. Attending natural urges properly

5. Seasonal Regimens etc.

CONCLUSION

Despite the substantial potential negative health effects of insufficient sleep, it is not surprising that poor sleep is linked to a variety of lifestyle disorders and a lower life expectancy. To overcome this, it is critical to adhere to traditional guidelines, as a sedentary lifestyle is the root cause of all diseases. To prevent this sort of disease due to sleep deprivation, as per Acharya Charaka, those who are awakened during the night hours due to their work schedule the next day before the intake of food should sleep half of the awakened hours.

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