

**DINCHARYA AND RITUCHARYA W.S.R. TO CIRCADIAN RHYTHM AND SLEEP**

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**ABSTRACT**

Ayurveda is a life science that focuses on both aspects of health: preventive and curative. Holistic approach of health is carried out by Ayurveda science where mental equilibrium with the physical and spiritual plane is more important. Aahara (food), Nidra (sleep), and Brahmacharya (celibacy) are collectively described as the Traya Upastambha (supportive pillars) of life in Ayurveda. By balanced use of all three, the person gets a healthy life with proper nourishment and strength.<sup>[1]</sup> Nidra is one of the most important dimensions of health. Nidra means sleeping pattern, hours and quality of sleep. Nidra is essential for maintaining good mental and physical health. The importance of sleep has also been described in the Charaka Samhita. According to Acharya Charaka, proper and improper sleep leads to cheerfulness and unhappiness, proper and improper growth, power and weakness, potency and impotency, brainpower and non-intellect and life and death of an individual.<sup>[2]</sup> The majority of the time, when individuals discuss circadian rhythm, the rhythm is in relation to sleep. Sleep-wake cycle is One of the most illustrative and crucial instances of the significance of circadian rhythms. Dinacharya, Ritucharya can helps us to maintain the circadian rhythm. Ayurvedic perspective on the circadian rhythm and its use in the prevention and therapy of illnesses are the focus of this review paper.

**KEYWORDS:** Circadian rhythm, Dinacharya, Ritucharya.

**INTRODUCTION**

Nidra has been described in *Traya Upastambha*. Equal importance has been given to sleep along with *Aahara* (food) and *Brhmacharya* (celibacy). All these three measures should be indulged judiciously to maintain good health. *Nidra* is the one which provide complete relaxation to body and mind.

The term "*Bhutadhatri*"<sup>[3]</sup> refers to the natural and restorative phenomenon that is sound sleep at night (nourishes all living beings). Since it relieves stress and restores physical functions, a good night's sleep is a sign of overall wellness. It is also known as "*Vaishnavi Maya*",<sup>[4]</sup> as it offers sustenance to maintain health, like Lord *Vishnu*, the god who sustains and nourishes the earth.

**Circadian rhythm and sleep**

Circadian rhythm is explained by *Ayurveda* using the *Tridoshas* cyclical cycle. Similar to how *Chandra*,

*Surya*, and *Vayu* preserve the integrity of our earth's universe, the *Tridosha* are responsible for maintenance of our body functions. many factors affect the equilibrium of these doshas for instance i.e., *Desh*, *Kala*, *Aahar*, *Vihara*, *Ritu* (seasons) etc. Hence, the diet and regimen in every season must be in accordance with the status of dosha of the body. This maintains the circadian rhythm of the body and overall health.

Our circadian rhythm is our sleep-arouse pattern over the course of whole day. It is responsible for controlling our daily routine for sleep. Circadian rhythm is affected by many factors such as light and dark, and other factors. brain responds to various changes in environment and activates certain hormones, which results in changes in body temperature, and regulates our body to keep us arouse or make us to sleep.

Circadian rhythm regulates alertness and sleep cycles by adjusting to changes in ambient light. As part of our

circadian rhythm, hormones like melatonin and cortisol may raise or decrease. Our bodies produce more melatonin at night and less during the day, which is a hormone that induces sleep. Our bodies produce more cortisol in the morning, which has the ability to increase alertness.

Melatonin production increases as the day goes on and in order to aid in falling asleep, melatonin production increases at night after the sunset.<sup>[5]</sup> and the master clock then continues to send signals that aid in keeping us sleeping throughout the night. The master clock sends alertness inducing signals throughout the day as a result of light exposure, which helps keep us up and active. Our circadian rhythm does this to achieve a balance between our sleep and wakefulness throughout the day and night.

Circadian rhythm also includes our body temperature and metabolism. Body temperature varies in sleep and awake stages. We can see that our temperature rises during awake hours and it decreases during sleep. our metabolism also varies in different phases of the day.

Our eating habits, hormone levels, body temperature, and sleep patterns are all influenced by circadian rhythms. Some people may develop circadian rhythm disturbances as a result of environmental influences or sleep issues. We can adapt to our body's natural rhythms better by upholding healthy behaviours or by following *Dincharya*, *Ratricharya*.

The factors which cause disturbance in circadian rhythm are *Dharana* of *Adharniya vega* and *Udeerana* of *Dhraniya Vega*, imbalance in *Dincharya*, *Ratricharya* and *Ritucharya*.

**Charya-** Charya means Cyclic pattern of time. In *Ayurveda kala* is included under nine basic *dravya*. It is further divided in *Nityaga* and *Aavasthik* division.<sup>[6]</sup> *Nityaga* is the linear form of *Kala* on which our normal calendar is based. *Aavasthik Kala* is described according to various *Awastha* or stages which is in cyclic form. The *Dincharya* and *Ratricharya* mentioned in ayurveda is described according to this cyclic form. various regimen are described in these which helps us to maintain our circadian rhythm. This 24-hour cycle is governed by sun and moon. a/c to *Darshan* sun represent the body and moon represents the mind of a person. There is regimen mentioned in *Ayurveda* in form of *Dincharya* and *Ritucharya*. People are well known about the nature at that time. They have knowledge about the movement of earth around the sun and around its own axis. On the basis of this rotation, they make the concept of *Dincharya* and *Ritucharya*.

#### **Dinacharya<sup>[7]</sup>**

Day to darkness and winter to spring are cycles in nature. These tidal and seasonal fluctuations are brought on by the Sun's movement. Since humans are a miniature version of the universe, they need adapt their daily habits

to reflect these changes in order to maintain their health. To maintain a balance of the circadian rhythm in the form of daily cycle of the doshas, which includes arousal in *Brahmamuhurtha*,<sup>[8]</sup> *Dinacharya* includes person's daily regimen. It helps in various metabolic process of the body like digestion, absorption, and assimilation, and it also promotes our health, discipline, joy and longevity.

#### **Ritucharya<sup>[9]</sup>**

*Ritucharya* refers to dietary, behavioural, and habit changes made in response to seasonal changes. Atmospheric changes in various Seasons occurs in the environment which have effect on our *Tridosha* as well. The changes seen in the environment as Stage of Accumulation, Stage of Aggravation, and Stage of suppression of vitiated *Dosha*. This may result in an internal disparity, which may appear as a number of physical and mental diseases. *Ritucharya* (seasonal regimen) is a set of dietary and lifestyle guidelines that help people adapt to the changing seasons without disrupting their bodies' natural balance. Studies have shown that seasonal affective disorder (SAD) is caused by the circadian cycles' improper adaptation to the lengthening of the day as the seasons change (Seasonal Affective Disorders).

The dysfunction of *Agni*, *Vega Dharana* and *Udeerana*, improper *Ahara* and *Nidra*, and other things can cause a circadian cycle to be out of sync.

#### **DISCUSSION**

The dysfunction of *Agni*, *Vega Dharana* and *Udeerana*, improper *Ahara* and *Nidra*, and other things can cause a circadian cycle to be out of sync.

#### **Vega come in two ways**

1. *Adharaneeya Vega* - Those impulses that should not be repressed and, if they are, will lead to the development of disease symptoms. Urge for urination and defecation, *Shukra*, *Apanavayu*, *Chardi*(Urge to vomit), *Kshavathu*(urge to sneeze), *Udgara*(urge for belching), *Jrumba*(urge for Yawning), *Kshudha*(appetite), *Trishna*(thirst), *Bashpa*, *Nidra*(sleep), and *Shramaswasa Vega* are among the thirteen *Adharaneeya Vegas*.<sup>[10]</sup> In place of *Udgara*(urge for belching) *Vega*, *Acharya Vagbhata* substituted *Kasavega*(coughing) as the *Adharaneeya Vega*.<sup>[11]</sup>
2. *Dharaneeya Vega* - These are those impulses or emotions which must be suppressed. if they are not suppressed, they will result in various diseases. This *Vegadharana* could develop into diseases if they are not treated right away. *Dharaneeya Vega*, formerly known as *Manasika Vega* are intended to be completely under our control, with full discipline over our senses. These include envy/jealousy, greed, envy/jealousy, aversion, competitive mentality, attachment, and the other emotions like fear, lust, anger, sorrow, anxiety etc.<sup>[12]</sup>

3. *Aahara*-. A balanced diet is necessary to keep *Dosha* in their best condition. Dietary components should be chosen complementarily, which means that those that have characteristics similar to those of vitiated *Dosha* should be avoided and the contrary should be preferred. The circadian cycles of our body, such as early morning waking, hunger, thirst, physical energy, and sleep, are supported by these *Dosha*. These factors should be considered while taking *Aahara* which are *Desha*, *Matra*, *Kala* (includes both *Nityaga* and *Avasthika*), status of *Agni* etc to maintain a normal rhythm.<sup>[13]</sup> *Acharya Charaka* has said that *Aahara* is the cause of health and diseases.<sup>[14]</sup>
4. *Nidra*- Our body maintains a 24-hour body clock naturally through your circadian rhythm, which supports the maintenance of a regular sleep–wake cycle.

Factors like lifestyle disruption brought on by irregular sleep patterns and poor dietary intake imbalance the circadian cycle of digestive enzymes, which results in the *Agnimandya* or decrease in digestion power which is the underlying cause of all diseases.<sup>[15]</sup>

## CONCLUSION

Every person has a distinct circadian rhythm, or biological clock. Maintaining a healthful circadian rhythm may involve adjusting a person's habits to match the rhythms of nature.

Normal rhythmicity can be maintained by adhering to a proper diet and lifestyle regimen in accordance with the nocturnal and seasonal *Avasthas* of the *Dosha*.

Due to the rising demand for night shift work in the modern world, circadian rhythm disturbances are a factor in many lifestyle disorders and mental illnesses. Ayurveda suggests using techniques like *Dinacharya*, *Ritucharya*, *Ratricharya* and *Ritusodhana* to align our circadian rhythm in order to improve our health, mental clarity, immunity, awareness, and physical strength. *Dinacharya*, *Ritucharya*, *Ritusodhanas*, *Aharavidhi* *Visesha* *Ayatanas*, *Aharavidhi* *Vidhanas*, *Sadvrithapalana*, *Achara Rasayana*, etc. would help us achieve this. We can maximize our health, mental alertness, immunity, awareness, and physical strength by aligning our circadian rhythm by methods suggested by *Ayurveda* like *Dinacharya*, *Ritucharya*, *Ritusodhanas* etc.

The *Ayurvedic* times for administering medications (*Bheshaja Kala*) to a sick individual correspond to the rhythmicity of the *Doshas*. Therefore, administering medication in accordance with that can increase a drug's efficacy.

By modifying one's food and lifestyle in accordance with work schedule, and also applying the knowledge of

circadian rhythm in various fields of medicine we can find solution to various health problems.<sup>[16]</sup>

Thus, *Dincharya*, *Ratricharya* and *Ritucharya* helps us to maintain our body's circadian rhythm and achieve a good health.

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