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Review Article

A COMPARATIVE REVIEW ON ROLE OF NIDRA IN MAINTENANCE OF HEALTH

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ABSTRACT

Sleep is very much essential for maintenance of good health. The scope and importance are so greatly attached with the whole span of life of individual that it can either uplift the life to the sky and make it happy or otherwise.

Day sleep is indicated in *Grishma Ritu* and ematiated circumstances while contraindicated in other seasons and Kaphaja conditions because *Kapha* is vitiated after day sleep night awakening causes aggravation of *Vata* and *Pitta*. Therefore it is useful in persons having excessive *Kapha* and suffering from *Dushivisha*.

Loss of sleep and excessive sleep are the two disorders which can be treated by favourable environment and *Shodhana* Karma respectively.

On comparing with modern medicine it is clear that abnormal wakefulness or insomnia arises due to pathological states such as hyperthyroidism.

Somnolence or sleepiness or unnatural drowsiness develops in certain conditions like hypothyroidism Merits of sleep and demerits of awakening as documented in *Charaka Samhita* can be proved by modern views.

Pushti – Increased secretion of growth hormone during first 2 hours of sleep give rise to increased protein synthesis, decrease in breakdown of cell protein. Increased fatty acid mobilization from adipose tissue causes increase in lean body mass and increased growth of skeleton frame.

Bala: Increased fatty acids in blood and increased use for energy. Decreased rate of glucose utilization and conservation of carbohydrates occurs for energy yielding. Enhancement of parasympathetic activity during sleep is concerned with restoring and conserving energy.

Vrishya: Growth hormone promotes early division of the spermatogonia resulting in fertility. Awakening causes decreased growth hormone giving rise to deficient spermatogonia and infertility.

Gyana: Sleep causes progressive enhancement of thought process, accurate mental concentration.

Sukha: During sleep the man's *Indriyas* and *Karmendriyas* are under rest giving rise to mental and physical satisfaction. In this way sleep is very important while awakening causes, *Karshya*, *Abala*, *Klivta*, *Agyana* and *Dukha*. Therefore sleeping at proper time and for adequate period is very much necessary for healthy living.

The present article takes comparative review that is an Ayurvedic and modern approach on the importance of *Nidra* in maintenance of health.

Keywords: Nidra, Health, Pushti. Vrishya. Gyana. Sukha.

INTRODUCTION

Nidra i.e. sleep is very important for maintaining good health because it over comes the stage of exhausting and the person feels healthy as it is said in following verse.

“यदा तु मनसि क्लान्ते कर्मात्मानः क्लमाचिताः विषयेभ्योनिवर्तन्तेतदास्वपितिमानवः।
(Ca Su 21/35)

When the mind is exhausted and the exhausted sense organs detract from their objects, the man sleeps.

उपस्तम्भाइति-आहारः स्वप्नोर्ब्रह्मचर्यमिति, एभिस्त्रिभिर्व्यक्तियुक्तेरुपस्तम्भमुपस्तम्भैः शरीरबलवर्णोपचयोपचितमनुवर्तते।... (Ca. Su. 11/35)

It is the second sub pillar among the *Triupastambha* quoted as ‘*Swapana*’ by AcharyaCharaka. If it is observed properly it helps in maintaining good health till the completion of life span but if neglected it is the cause of several disorders.

Advantages and Disadvantages of Sleep:-

निद्रायत्तसुखदुःखपुष्टिः कार्श्यं बलाबलम्। वृषताक्लीवताज्ञानमज्ञानजीवितं न च।।(Ca Su 21/36)

Dependent on sleep are happiness and misery, corpulence and leanness, strength and weakness, potency and impotency, intellect and non-intellect, life and death. Sleep observed untimely, excessively and negatively takes away happiness and life like the other death night. The same if properly observed, provides, happiness in life like the flashed true knowledge providing accomplishment to *yogis*.

Types of sleep

While dealing with importance of sleep, it has already been stated that mental and physical exertion bring about inactivity of the mind resulting its dissociation from the sense organs and thereby with their objects which is responsible for sleep. But if there is excessive exertion, this may cause vitiation of Vata leading to sleeplessness. Thus, even though, exertion is a causative factor for sleep, but here its excessiveness is responsible for the aggravation of Vata.

In natural course, the night serves as a causative factor for sleep. Sleep during day time is predominantly generated by Tamas and has got its merits and demerits. There are many other factors which are held responsible for sleep considering almost all the possible factors, seven types of sleep have been stated.

It is classified on the basis of its etiological factors.

1. *Tamobhava* - Tamas
2. *Shleshmasamudbhava* - Kapha
3. *Manhashramasambhava* - Mental exertion
4. *ShariraShramashmbhava* – Physical exertion
5. *Agantuki* - External cause
6. *Vyadhyamuvartani* - As sequel to a disease
7. *RatriSwabhavaPrabhava* - Normally occurring at night

Chakrapani commenting on these types of sleep states that the first one is due to over-whelming of Tamas and the second type is caused by predominance of Kapha. The third and fourth types of sleep are due to complete cessation of mind and body with their objects, caused by exhaustion. The *Agantuki* type of sleep commands the bad prognosis and leads to imminent death. The sixth one is caused by disease as *Sannipataja Jwara* etc. The seventh type of sleep has been considered best and stated to be infusive of life in people, while the other types have been discarded.

Variations of sleep:

1. Sleeping in the day.
2. Awakening in the night.

1. Sleeping in the day:

Indications:- This day sleep is unctuous and indicated in following persons - those who are emaciated on account of singing, reading, drinking, sexual relation, evacuative therapy, weight carrying, traveling on foot, having indigestion, injured, wasted, old, children, women, suffering from thirst, diarrhea, colic pain, dyspnoea hiccup, are lean, fallen, wounded, insane, exhausted by journey, visits and also by anger, grief and fear. They are endowed with equilibrium of Dhatus and strength. Kapha nourishes their body parts and their life span becomes stable. (Ca. Su. 21/39-41).

In the summer season because of roughness due to *Adanakala*, aggravation of *Vayu* and shortening of nights, day sleep is recommended.

Contraindications:- Seasons other than summer Kapha and Pitta are vitiated, the obese persons those having regular fatty

diet, having plenty of Kapha, Kaphaja disorders, suffering from latent poison.

These people if sleep in the day they are effected by Halimaka, headache, cold, heaviness in body parts, bradycardia, loss of appetite and indigestion, oedema, nausea, rhinitis, migraine itching, drowsiness, cough disorders of throat, derangement of memory and intelligence, obstruction of channels, fever, incapability of sense organs in more effect of poison.

II. Awakening at night:

It is rough it is not wholesome because sleep is very much necessary for a person. As wholesome diet is needed for maintenance of body so is the sleep. Obesity and leanness are particularly caused by sleep and food.

Deviation from normal routines of life is bound to give rise to many biological disturbances except in those who are accustomed to it. The biological changes in the body are variable depending upon the duration, posture and states of the individual and thereby they disturb the body humors, leading to various types of ailments in the body.

Negligence at small scale, in case of body, may lead to its gross pathological changes which may be troublesome and incurable, in the long run. Charaka has advocated many pathophysiological changes, precipitating due to imbalanced *Doshas*.

Disorders of Sleep:-

1. Excessive Sleep
2. Loss of sleep (insomnia)

Excessive sleep: It causes obesity

Treatment: It can be controlled by purgation, evacuation of head i.e. emesis, fear, anxiety, anger, smoking, exercise, bloodletting, fasting, uncomfortable bed, predominance of Satvas.

Loss of sleep: - It occurs due to over work, time, old age, Vatikadisorders, *Vatika* constitution and aggravation of Vata. So we should avoid these things such as emesis, fear, anxiety, anger, smoking, exercise, fasting and uncomfortable bed.

Treatment: Method and measures to induce good sleep.

- As a rule one can sleep comfortably only at a time when he is accustomed to sleep.
- If for some reason, he can be instantaneously cured by massage, unctious both.
- Intake of soup of domestic, marshy and aquatic animals.
- Intake of *Shali* rice with curd, milk, unctuous substance and alcohol.
- Psychic pleasure.
- Smell of scents and hearing of sounds of one's own taste.
- *Samvahana* (rubbing of body by hands).
- Application of soothing ointment to the eyes, head and face.
- Comfortable home and bed.

These above prescriptions do not apply to the sleeplessness indicative of *Aristhta* or bad prognostic symptoms leading to death.

MODERN ASPECT OF SLEEP

Sleep is defined as unconsciousness from which the person can be aroused by sensory or other stimuli. It is different from coma.

Coma is a stage of unconsciousness from which the person cannot be aroused.

Sleep requirement: In new born baby 16-20 hours, children 12-14 hrs, adults 7-9 hrs, and in old age 5 hrs.

Theory of sleep: Earlier theory of sleep was very much correlated with concept of Ayurveda. The excitatory areas of the upper brain stem, the reticular activating system, simply fatigued during the waking in day and became inactive as a result. This was called the passive theory of sleep.

The current belief is that sleep is caused by an active inhibitory process. In other words, there seems to be some center located below the midpontile level of the brain stem that is required to cause sleep by inhibiting other parts of the brain.

Stimulation of several specific areas of the brain can produce sleep with characters near those of natural sleep. Some of these areas are.

1. The raphe nuclei in the lower half of the pons and in the medulla.
2. The nucleus of the tractus solitarius, which is the sensory region of the medulla and pons for visceral sensory signals entering the brain by way of the vagus and glossopharyngeal nerves also promote sleep.
3. Stimulation of several regions in the diencephalon can also help in promoting sleep, including
 - a. The rostral part of the hypothalamus, mainly in the suprachiasmatic areas.
 - b. An occasional area in the diffuse nuclei of the thalamus.

Discrete lesions in the raphe nuclei lead to a high state of wakefulness. This is also true of bilateral lesions in the medial rostral suprachiasmatic portion of the anterior hypothalamus.

It is possible that prolonged wakefulness causes progressive accumulation of a sleep factor or factors in the brain stem or in the cerebrospinal fluid that lead to sleep.

Effects of sleep

1. Effects on nervous system.
2. Effects on other functional systems of the body.

A restful sleep enhances the parasympathetic activity while sympathetic decreases. Sleep does not affect all the senses equally. Smell and taste are most depressed, pain, touch and hearing are least affected. Hence a sleeping man can be more easily aroused by the later stimuli.

During sleep somatic activity is greatly decreased, Threshold of many reflexes is elevated and responsiveness is also lessened. Man cannot remember the events occurring during sleep. Basal metabolic rate being least, all tissues and organs perform the least work. Changes which occur are as follows.

1. **Circulatory System:** Pulse rate, cardiac output, vasomotor tone and blood pressure reduced.
2. **Respiratory System:** Tidal volume, rate of respiration and pulmonary ventilation lowered.
3. **Urine:** Volume decreases specific gravity and phosphates raised.
4. **Secretions :**
 - a. Salivary and lacrimal reduced
 - b. Gastric – unaltered or raised
 - c. Sweat – raised
5. **Muscles :** Relaxed

6. **Basal metabolic rate** is decreased upto 10-15% due to decreased tone of skeletal muscles, decreased activity of CNS.

7. **Eyes:** (a) Eyeballs: Roll up and out due to flaccid external ocular muscles.

(b) Eyelids come closer specially due to the dropping of the upper eyelids

(c) Pupils – Contracted

Blood volume increased.

Nervous system (a) Superficial reflexes – unchanged (b) Deep reflexes – reduced (c) Vasomotor reflexes more brisk.

Hormones: Deep sleep of first 2 hours increases growth hormone. Therefore we can assume that sleep in multiple ways restores both normal levels of brain activity and normal balances among the different parts of the CNS. So the principal value of sleep is to restore the natural balance among the neuronal centres.

Effects of wakefulness

- Lack of sleep however, affect the functions of the CNS. It also enhances the sympathetic activity as well as enhanced number of skeletal nerve impulse to the skeletal musculature to increase muscle tone.
- Prolong wakefulness is associated with (a) progressive malfunction of the thought process. (b) Abnormal behavioral activities the first one is related with increased sluggishness of thought but in addition a person can become irritable or even psychotic after forced wakefulness. (c) Neuromuscular symptoms – fatigue. (d) In accurate mental concentration. (e) Threshold for pain lowered. (f) Equilibrium is disturbed.
- Very much prolonged wakefulness causes collapse and death cortical nerve cells undergo shrinkage and chromatolysis.
- The lethal period of sleeplessness in man is not known.

DISCUSSION

Sleep is very much essential for maintenance of good health. The scope and importance are so greatly attached with the whole span of life of individual that it can either uplift the life to the sky or make it happy or otherwise.

Day sleep is indicated in *Grishma Ritu* and emiated circumstances while contra indicated in other seasons and *Kaphaja* conditions because *Kapha* is vitiated after day sleep night awakening causes aggravation of Vata and Pitta. Therefore it is useful in persons having excessive *Kapha* and suffering from *Dushivisha*.

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CONCLUSION

The present article entitled as "A comparative review on role of *Nidra* in maintenance of health" Deals with the specific aspects of Ayurveda and it stresses the prevention aspect.

In present era, to attain positive health is a burning global problem and WHO is striving to achieve it with all might and men.

The conclusion of this article i.e. One should sleep at proper time and in appropriate amount. Day sleep is harmful except in summer, especially for obese people which is a major problem of today. Excessive sleep and sleep avoidance both are harmful, will surely contribute to the health promotion efforts of WHO through the means of nature endowed resources and their acceptability .

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