



## Review Article

### MANAGING SLEEP DISORDERS IN THE ELDERLY WITH AYURVEDA

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#### ABSTRACT

Sleep is a basic human need, important for good health & therefore considered as one of the *Trividh upastambhas*. Sleep is a natural phenomenon of giving adequate rest to the body and mind. Sleep disturbances increase with aging and it is estimated that nearly 67% of the elderly people have at least one sleep-related complaint. Various sleep disorders identified in elderly people include long time to fall asleep, disturbed sleep at night (*Khandit nidra*) and insomnia (*Anidra*). An improper diet and lifestyle causes aggravation of *Vata* that travels through the channels of the head causing sleeplessness. Suppressed emotions, disturbed sleeping patterns, worries, anger, overexcitement and ill health may be other responsible factors for sleep disorders. *Abhyanga* & *Sanvahan* (massage), *Udsadan*, *Udvartan* (Rubbing medicated paste & powder), *Snana* (bath), *Karnapurana* & *Akshitarpan*, *Shirobhyanga* & *Padabhyanga*, *Shirodhara*, *Takra dhara* etc are desirable for best results in management of sleep disorders. *Yoga* with a combination of *Asanas* specifically *Shavasana*, *Pranayama*, and meditation (*Dhyan*) along with proper, balanced diet & lifestyle giving due respect to the biological clock proves beneficial. *Yoga* is considered to be a means for physical, mental and spiritual growth of an entity. So, it is found that the complete package of palliative, *Panchakarma* treatment, *Yoga-pranayama* provides good results in elderly sleep disorders.

**KEYWORDS:** Sleep disorders, Elderly people, *Panchakarma*, *Yoga*, Balanced diet.

#### INTRODUCTION

India is in a phase of demographic transition. As per the 1991 census, the population of the elderly in India was 57 million as compared with 20 million in 1951. There has been a sharp increase in the number of elderly persons between 1991 and 2001 and it has been projected that by the year 2050, the number of elderly people would rise to about 324 million.<sup>1,2</sup>

More than half of the elderly have one or more chronic disease and disability. The ten most common diseases are: hypertension, cataract, osteoarthritis, chronic obstructive pulmonary disease, ischemic heart disease, diabetes, benign prostatic hypertrophy, dyspepsia, constipation and depression.<sup>3</sup> There are several other disorders which affect the elderly population & sleep disorders are one of them. Several physical and psychological changes are known to occur with normal ageing.

However adjustment to changes in sleep quantity and quality can be among the most difficult. Although sleep disturbance is a common complaint among patients of all ages, research suggests that older adults are particularly vulnerable. A large study of over 9,000 older adults age of > 65 yr found that 42 percent of participants reported difficulty initiating and maintaining sleep.<sup>4</sup>

It is estimated that nearly 67% of the elderly people have at least one sleep-related complaint. Various sleep-related problems identified in elderly people include long time to fall asleep, disturbed sleep at night,

and decreased daytime alertness etc. Researchers have observed direct correlation between poor sleep quality and increased physical and psychiatric morbidity, decline in cognitive function, and impaired quality of life (QOL). Most common factors cited for sleep disturbances are lack of sufficient physical activity, poor sleep-related hygiene & excessive daytime napping.<sup>5</sup>

#### AIM

To study the concept of *Nidra* in view of elderly sleep disorders with Ayurveda.

#### MODERN ASPECT

##### Sleep physiology

The human body has many rhythms that influence and regulate physiologic functions, performance, moods, and behavioral responses. A major determinant of sleep is the internal biological clock that regulates the circadian rhythm over a 24-hour period. Any disruption of this rhythm can result in interrupted sleep and cause a myriad of problems, including fatigue, mental changes, cognitive difficulties, and physical changes.<sup>6</sup>

Sleep also has an internal organization regulated by different areas of the brain. This rhythm is controlled and regulated by two brain processes. The restorative process is a response to how long one stays awake. The longer the period of time one goes without effective sleep, the stronger the drive to sleep. The second process controls the timing of sleep and wakefulness during the

day-night cycle. The timing of sleep is controlled by the suprachiasmatic nucleus of the hypothalamus, which responds to light and causes sleepiness at night when it is dark.<sup>6</sup>

### Hormonal regulators

Melatonin is important to regulate normal sleep cycles. This hormone is produced by the pineal gland, a small endocrine gland found near the center of the brain. Melatonin is produced during "dark hours" of sleep and is released in response to changes in light and inhibits the neurotransmitters involved in arousal, such as histamine, norepinephrine, dopamine, and serotonin. Melatonin has also been noted to induce sedation and lower core body temperature.<sup>6</sup>

Sleep disturbances in the elderly can lead to changes in the physiological systems, such as a reduction in the production of appropriate hormones, like the growth hormones, and also a decline in the metabolic functioning.<sup>7</sup>

### AYURVEDIC ASPECT

*Nidra* is considered second amongst the *Trividha upastambhas*<sup>8</sup>. One, who gets sound sleep at night, can digest the food well, his *Kayagni* is enhanced & there is proper nourishment of the body.<sup>9</sup>

As per Acharya Charaka, *Nidra* is a condition in which *Mana* including *Indriyas* dissociate themselves from their objects. According to Acharya Susruta, *Nidra* is related to *God Vishnu*, it is sinful and encroaches upon all living beings by nature.<sup>10</sup> Acharya Vagbhat has said that *Nidra* is produced from *Tamas* at the time of commencement of the creation. It is another form of *Tamas* itself and manifest when *tama* is predominant, generally at night.

### Physiology of Nidra

According to Acharya Charaka, when the *Mana* including *Indriyas* is exhausted and thus they dissociate themselves from their objects, the individual sleeps.<sup>11</sup> When the *Mana* (as well as the soul) gets exhausted or becomes inactive and the *Gyanendriyas* and *Karmendriyas* become inactive then the individual gets sleep. Acharya Susruta said about the physiology of *Nidra* that *Hridaya* is the seat of *Chetna* in living being. When this is invaded by *Tamoguna*, persons are subjected to *Nidra*. *Tamoguna* is the cause of sleep and *Satva guna* is the cause of awakening but overall, nature itself is more dominant cause.<sup>12</sup> Acharya Charaka explained physiology of *Nidra* that when *Srotas* of the body become covered by *Kapha*, then the body is fatigued by exertion and when the sense organs are not functioning, *Nidra* manifests in the body.<sup>13</sup>

### Causes

Ayurveda believes that usually an improper diet and lifestyle vitiates the "*Vata*" which disturbs the natural body physiology and results in various types of sleep disturbances. Which include *Alpa nidra*, *Khandit nidra*, & *Anidra* or *Nidranash*.<sup>14</sup> Suppressed emotions, disturbed sleeping patterns, worries, anger, old age, overexcitement and ill health may be other responsible factors.<sup>15</sup>

### Symptoms

Include difficulty falling asleep at night, waking up during the night or too early, day time fatigue, sleepiness & irritability.<sup>16</sup>

### PREVENTION

- Avoid excessive consumption of coffee, tea, soft drinks, alcohol and smoking.
- Avoid incompatible, indigestible, hot, spicy food articles.
- Avoid heavy meals at night.
- Avoid watching television or working on the computer late at night.

### MANAGEMENT

#### Advised food

Sugarcane juice, *Shali*, *Godhum*, *Mash*, milk, meat sup, sweet with rich fat, non-veg, grapes, curd of buffalo milk.<sup>17</sup>

#### *Nidana parivarjana* (avoidance of etiological factors)

Before starting medication for the sleep related disorders any psychiatric, neurological condition and chronic medical illness should be treated first.

#### Palliative treatment

*Ashwagandha*, *Jatamansi*, *Brahmi*, *Mandukparni*, *Khurasini ajvayan*, *Jatiphal* are useful in overcoming the sleep related problems.<sup>18,19</sup> *Mamsyadi kvath*, *Brahmi vati*, *Sarpagandhi vati*, *Maha kalyaanak ghrut* promotes peaceful sleep.<sup>18</sup>

As per the status report of 10 formulations submitted by CSIR under Golden Triangle scheme *Tagradi kwatha* is beneficial in *Anidra*.<sup>20</sup>

#### Panchakarma Treatment

*Panchakarma* is a specialty of Ayurveda having preventive, promotive and curative actions and indicated in wide range of disease conditions/ health problems. *Shaman chikitsa* proves beneficial.

- *Abhyanga* & *Sanvahan* (massage), *Udsadan*, *Udvartan* (Rubbing medicated paste & powder), *Snana* (bath), *Karnapurana* & *Akshitarpan*, *Shirobhyanga* & *Padabhyanga* are desirable for best results in the management of sleep disorders.<sup>21,22</sup>
- *Shirodhara* with medicated oils proves beneficial.<sup>23</sup>
- *Takra dhara* for daily 45 minutes for 14 days & *Pichu* with *Kshirbala taila/Himasagara tail* promotes peaceful sleep.<sup>18</sup>

#### Yogic Practices

- Practice of *Anuloma viloma*, *Ujjaini*, *Bhramari*, *shitali pranayama* and Meditation along with the practice of *Yama* and *Niyama*.<sup>24</sup>
- *Suryanamaskara*, *Tadasana*, *Matsyasana*, *Mandukasanakasana*, *Bhujangasana*, *Padmasana*, *Pascimottanasana* and *shavasana*.
- Yoga has been used as a tool for stress management that can assist in alleviating depression and anxiety disorders, insomnia and other psychological ailments.<sup>25</sup>
- Yoga can be effective in reducing insomnia<sup>26</sup>. Deep relaxation techniques, *Yoga Nidra*.<sup>17</sup>

**Advice**

- Use of *Madhura rasa* (sweet in taste) *Pradhana ahara* and warm buffalo milk before bed time.
- Maintain active life mentally and physically
- Practice yoga and meditation
- Practice of *Shiroabhyanga* and *Padabhyanga*

**DISCUSSION**

Elderly people are highly prone to Physical and mental morbidities due to, problems associated with physical and mental health, socio-economic factors such as breakdown of the family support systems, and decrease in economic independence.

Sleep-related problems in older people are mostly ignored by the physicians. These include *alpa Nidra*, *Khandit nidra*, & *Anidra or Nidranash*. Suppressed emotions, disturbed sleeping patterns, worries, anger, old age, overexcitement and ill health may be other responsible factors. Timing of sleep is one of the important factors which is controlled by the suprachiasmatic nucleus of the hypothalamus, which responds to light and causes sleepiness at night when it is dark<sup>6</sup>. Sleep disturbances in the elderly can lead to changes in the physiological systems, such as a reduction in the production of appropriate hormones, like the growth hormones, and also a decline in the metabolic functioning.<sup>7</sup>

An ideal preventive health package for the sleep related disorders include various components such as knowledge and awareness about disease conditions and steps for their prevention and management, good nutrition and balanced diet, Panchkarma procedures, physical exercise.

For the promotion of a positive mindset and to create a feeling of well being, meditation, Yoga, prayer, and strategies for motivation should also be included.

**CONCLUSION**

Balanced diet & lifestyle giving due respect to the biological clock, *Nidana parivarjan*, *Rasayna* therapy, *Panchakarma*, *Yoga* & palliative treatment provides a complete package for getting rid of sleep disorders.

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**Cite this article as:**

Priti Desai, Gaurav Sawarkar, Umesh Yelne. Managing Sleep Disorders in the Elderly with Ayurveda. International Journal of Ayurveda and Pharma Research. 2016;4(1):48-51.

**Source of support: Nil, Conflict of interest: None Declared**

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