



CLINICAL EVALUATION OF SIRODHARA AND YOGA THERAPY IN MANAGEMENT OF CHRONIC INSOMNIA

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ABSTRACT

Sleep is a normal activity of all living beings. It is the period of rest for fatigued tissue. Insomnia is an experience of inadequate or poor quality of sleep characterized by difficulty in falling asleep, maintaining asleep, waking up too early in morning. Insomnia can be correlate with Nidranasa in Ayurveda. It is caused by the Vata. It has been proved that Yoga along with Sirodhara are very much effective in the management of chronic insomnia .so main aim behind the management of nidranasa is directed towards pacification of vata.

Keywords: Insomnia, Sirodhara, Yoga, Nidranasa, Vata

INTRODUCTION

Nidra or sleep is a condition when the mind gets exhausted or becomes inactive then the individual gets sleep. It is one of the most significant of human behaviors occupying roughly one third of human life. Sleep is a normal behavior of all living beings. The exact functions of the sleep are still unknown, but it is necessary for the survival, because prolonged sleep deprivation leads to several physical and cognitive impairment and finally death. So sleep is an essential to the body as food, air, and water. According to Ayurveda sleep is designated as upastambha¹ or sub pillar of life. If it is practiced according to prescribed regimen it provides Sukh which is considering as arogya (disease free state). Nidra has also been considering as bringhan factors, it promotes health by nourishing dhatues. According to *Acharya Charak sukh, dukha, pusti, karshya , bala , abala, vrishata , klibata gnyanam, agnyana* (ignorance), *jivan* and death all these depend on quality of sleep². Acharya Susruta has said by taking proper and adequate nidra, the person will be free from diseases, will have a pleasure in mind endowed with strength, color or complexion and virility³.

Previously it was believed that Reticular activating system (RAS) located at upper brain stem is the main area responsible for sleep. When the person remains active the area within RAS remains excited and long continued excitation produces fatigability at that area. When the RAS becomes fatigued, at the same it becomes inactive and sleep takes place. But it has been proved that an active inhibitory process causes sleep and stimulation of some specific areas of brain can produce sleep. Serotonin plays an important role in the mechanism of sleep and catecholamine is considered to be responsible for wakefulness. The blood concentration of serotonin becomes lower during sleep than during wakefulness. Cholinergic neurotransmitters also play an important role in REM sleep generation.

Insomnia is a condition of inadequate quantity or quality of sleep⁴. It is difficulty initiating or maintaining sleep. Most commonly it is associated with anxiety or stress. Chronic

insomnia is defined as insomnia occurring at least 3 nights or weeks for one month^{5,6}. Insomnia is now burden in our society and its management also challenge for doctors. About 40 % of adults have insomnia with difficulty falling to sleep, early waking or feeling un freshen on waking. The cause of insomnia is uncertain. The risk of insomnia increases with age. In Ayurveda insomnia can be correlated with Nidranasa, and prajagara⁷⁻¹⁰. Nidranasa caused by the aggravation of vata¹¹, so main aim behind the management of nidranasa is directed towards pacification of vata. Insomnia affects both body and mind. According to Acharyas loss of sleep leads to squeezing pain in the body parts, heaviness of the head , too much yawning, lassitude, exhaustion, giddiness, indigestion¹².

Aims and objective

To established the efficacy of sirodhara and yoga in the management of chronic insomnia.

MATERIALS AND METHODS

30 patients were selected under age group of 18-60 years from Kayachikitsa O.P.D of I.P.G.A.E&R at S.V.S.P Hospital irrespective of age, sex, occupation, habit etc. for the clinical study of this research work. Institutional ethical committee has approved this research work. It was single blind study. After proper screening 30 cases were selected for this study and were randomly distributed into two groups. Though 40 patients has been recruited but after final screening 30 patients have been selected for this research work.

Group A: 20 patients were distributed in this group and treated with Sirodhara(tila taila) therapy for 45 mints in the morning, continued for 15 days

Group B: 10 patients were distributed in this group and treated with Yoga therapy for 45 mints in the morning, continued for 15 days.

Following asanas, pranayama, shatkarma, mudra were advised during therapy.

Asanas Sarvangasana, Paschimottanasana, Uttanasana, Shashankasana, Shavasana .

Pranayama- Bhrmri pranayama

Inclusion and exclusion criteria

- Age : 18- 60 years , Irrespective of sex , occupation , educational status
- Having complaint of chronic Insomnia at least 3 nights or week for one month
- Having chronic Insomnia with difficulty initiating or maintaining sleep or no restorative sleep, for at least 1 month.
- The sleep disturbance (or associated daytime fatigue) causes clinically significant distress or impairment in social, occupational or other important areas of functioning.
- The sleep disturbance does not occur exclusively due to narcolepsy, breathing related sleep disorder, circadian rhythm sleep disorder, or a parasomnia.
- The disturbance does not associated with mental disorder (e.g major depressive disorder , generalized anxiety disorder, delirium)
- The disturbance is not due to the direct physiological effects of a substance (e.g. a drug abuse, a medication) or a general medical condition.
- The patient is diagnosed on the basis of DSM-IV.

The quality of activity in day time has been assessed with the help of Epworth Sleepiness scale. Assessment of quantity of sleep at night has been done with the help of sleep diary which was derived from National sleep foundation and The Pittsburg Sleep Quality Index (PSQI)

LABORATORY INVESTIGATION

Routine blood examination TLC , DLC , HB% , ESR , PPBS.

Follow up – After completion of therapy the patients were asked to come and attend O.P.D for 1 month for check up

OBSERVATIONS AND RESULTS

In this study the pre and post treatment the data obtained from sleep diary and score of Epworth sleepiness scale was recorded in both groups of patients. During this trial, B.P variations were recorded. It was found that with an average of B.P of 134.7/ 93 mmHg before the administration of therapy, 130.4/ 91.2 mmHg just after therapy and 120.1/81.2 mmHg after 12 hour of therapy. There was slight increase in B.P in all individual due to anxiety before administration of Sirodhara. Pulse rate and respiration rate also significantly changed during Yoga therapy. The effectiveness of the Sirodhara therapy and Yoga in the patients of group A and B have been assessed as per relief seen in subjective and objective parameters. Quality of sleep, duration of sleep were assessed first, after that quantity of sleep, mental irritation were assessed. In case of group A the scoring of Quality of sleep, duration of sleep ,Quantity of sleep , Mental irritation were 2.77, 2.31, 2.58, 3.00, respectively before treatment which were reduced up to 1.35, 1.04, 2.19, 2.04 respectively after treatment. It was revealed that all the scoring reduced to 51%, 54%, 50%, 32%. In case of quality of sleep, duration of sleep, quantity of sleep it was found significant (p <0.05). But in case of mental irritation it was found not satisfactory result .In case of group B scoring of the quality of sleep ,

duration of sleep, quantity of sleep mental irritation were 2.75,2.27, 2.80, 3.06 respectively B.T which are reduced up to 1.37, 1.02, 1.20, 1.21 respectively A.T.50%, 55%, 57%, 60%. In case of quality of sleep, quantity of sleep, duration of sleep, mental irritation it was found highly significant (p<0.001).

DISCUSSION

Sirodhara and Yoga are very help full in the management of chronic insomnia. It has been proved that regular practicing of yoga and Sirodhara could be better choice to treat this disease. Lifestyle modification like Diet and life style modification also have some good effect over this problem. Only diet and habit are not enough to combat this type of problem. But diet and habit, along with practicing of yoga, sirodhara are good non pharmacological choice in the management of chronic insomnia. In the procedure of *Shirodhara*, particular pressure and vibration is created over the forehead. The vibration is amplified by the hollow sinus present in the frontal bone. The vibration is then transmitted inwards through the fluid medium of cerebrospinal fluid (CSF). This vibration may activate the functions of thalamus and the basal forebrain which then brings the amount of serotonin and catecholamine to the normal stage inducing the sleep.

Yoga is a boon for the management of such type of disorders. It has effect on physical as well as mental health. Yoga helps to improve the metabolism, regulate the endocrine system, increase the blood flow to the organs, enhances the detoxitation process, increases the blood circulation to the brain and also helps in release of endorphins (natural pain killer) and serotonin.

Asana and pranayama are the important component of ashtanga yoga .The above said results can be achieved with the help of asanas and pranayama. *Sarvangasana* which enriches blood flow to the brain, tranquillizes the mind, and helps to clear psychological disturbances. *Paschimottanasana* has soothing effect on mind, removes anxiety, anger and irritability, and calms the emotions. *Uttanasana* boosts the circulation of *prana* in the body. In this asana the heart rate is slowed down & the spinal nerves get rejuvenated. The posture is a boon to people who get excited quickly as it has soothing effect on brain. *Shashankasana* the Sanskrit word “*shashank*” means moon, which symbolizes peace & clam. It emits soothing tranquillizing vibrations. *Shavasana* relaxes the psycho-physiological system. It develops body awareness. When the body is completely relaxed, awareness of the mind increases, developing *pratyahara*.

Role of Pranayama

The breath is the most vital process of the body. It influences the activities of each and every cell and most importantly is linked with the function of the brain. Most of the people breath incorrectly, use only small part of their lung capacity .The breathing is generally shallow, depriving the body of oxygen essential to its good health. Irregular breathing disrupts the rhythm of the brain and leads to physical emotional and mental blocks these in turn lead to inner conflict, a disordered lifestyle and disease. Pranayama establishes a regular breathing pattern, breaking this negative cycle and reverses the debilitating process. It does by giving us a control on breath and re-establishment the natural, relaxed rhythms of the body and mind. *Bhrmri pranayama* relieves stress and cerebral tension, alleviating anger, anxiety and insomnia, and reducing blood pressure. Bhrmari causes

the whole brain to vibrate. Vibration of the cerebral cortex sends impulses to the hypothalamus which has the capacity to control the pituitary gland (the master of all glands). The hypothalamus also sends impulses to the sympathetic and parasympathetic nervous systems. This helps tune the whole neuroendocrinal system to function in a harmonious and synchronized way. Paroxysmal Gamma waves produced in brain during the Bhramari Pranayama (Vialatte et al., 2009) which is associated with positive thoughts, feelings of happiness and acts as a natural antidepressant. In Bhramari Pranayama, pressing of the eyeballs leads to stimulation of the vagus nerve which in turn leads to activation of the parasympathetic nervous system (PNS). PNS is associated with a relaxed and calm state of mind and body (Speciale and Stahlbrodt, 1999; Zabara, 1992). Under the relaxing effects of PNS, autonomic nervous system facilitates to decrease the stressing effects of sympathetic nervous system and channels it towards more relaxed PNS. It calms the nervous system and brings in a mental state of calm and peace. So in a nut cell it could be declared that Yoga and Sirodhara are both and individual could be helpful in the management of chronic insomnia. Over all activity of Yoga is it relaxes the nerves and muscles of the body. It relieves stress and cerebral tension, alleviating anger, anxiety and insomnia. So it is a good non pharmacological choice to treat this chronic problem.

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