



## Role of shirodhara with ashwagandha taila in management of stress induced insomnia

Uttam Kumar Sharma <sup>1</sup>, Shobhit Kumar <sup>2</sup>✉, V.B.Kumawat <sup>3</sup>, Sanjay Yadav <sup>4</sup> & Kshitija Chaudhary <sup>4</sup>

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### Abstract

Ayurveda has considered sleep as one of the most important dimensions of health associated with happiness and good health. The man of 21<sup>st</sup> century is breathing under various stresses, strain, anxiety and irregular and unnatural food habits so insomnia is a very common sleep disorder stressful life event are closely associated with the onset of insomnia and are mediated by certain predisposing personality factors. Shirodhara is used popularly for the headache, nervous disorder, stress, insomnia, and hypertension etc. Shirodhara is based on the principle of invigorating the mind bringing on essence in the body. Shirodhara works on the forehead and calming the nerves. It also help to enhance blood circulation to the brain & there by helps to beat insomnia and calms the mind and body. A clinical study on 20 cases of insomnia was done to evaluate the efficacy of shirodhara with ashwagandha taila (sesame oil processed with ashwagandha – *Withania somnifera*). In their treatment the efficacy was evaluated on the basis of characteristics of sleeplessness, sleep awake schedule, sleep quality, sleep time, feeling after awakening and associated symptoms. The effect of therapy was also evaluated at DASS scale. The overall result of this measure is work encouraging and significantly effective.

**Keywords:** *insomnia, nidra, shirodhara, ashwagandha taila*

### Introduction

Ahara (diet), nidra (sleep) and brahmacharya (controlled sexual indulgence) are the three factors which play an important role in the maintenance of a healthy living. In ayurvedic literature, these factors have been compared with the three legs of sub-support and have been termed as three upastambha. The ancient scholars have stated that happiness and sorrow, growth and wasting, strength and weakness, virility and impotence, knowledge and ignorance as well as the existence of life and its cessation depend on the quality of sleep. Charaka has also given stress on sleep and described it as one among the primary tripod of life. Irregular and unnatural food habits, suppression of natural urges, lack of proper sleep and less time for relaxation are the inseparable part of our routine which enervate body and finally lead to the disease. This stress and strain of day to day life affects one's bodily organs

#### Author's Address

<sup>1</sup>Dept. of Panchakarma, U.A.U. Rishikul Campus, Haridwar

<sup>2</sup>Dept. of Swathavritta, U.A.U. Rishikul Campus, Haridwar

<sup>3</sup>Scientist 2, Ayurveda Central Research Institute, Jaipur

<sup>4</sup>M.D.Scholar U.A.U. Rishikul Campus, Haridwar

**E-mail:** druksm27@gmail.com

through several psycho-physical mechanisms. Among the several psychosomatic diseases, insomnia is one of them. Charak has described anidra as one of the disorder of vata dosha. The conditions like phthisis, wasting of muscle, thirst, diarrhoea, dyspnoea, hiccough cause insomnia because of predominance of vata dosha. Some of the work regarding sleep disturbance has been carried out in ayurveda and modern research fields. Even then, the lacuna remains in the field of concept, diagnostic approaches and management of sleep disorder. New evidence shows that sleep is essential to help in maintaining mood, memory and cognitive performance. It also plays a vital role in the normal function of the endocrine and immune system. In fact, studies show a growing link between sleep duration and a variety of serious health problems, including obesity, diabetes, hypertension, and depression. (Agnivesha, Murthy 2009, Hunter 2005, Pandey *et al.* 2009). The modern medical science is still not having a definite treatment for disease, although hypnotic, sedative, tranquilizers, psychotropic are there but they have got their own limitations because of its hazardous

adverse effects and their role in curing the disease is very limited rather the patient will be addicted for the particular drug. Such modern anxiolytic drugs have limited application and producing variety of neuro, endocrine, hepatic side effects. Therefore, such agents are not safe to be given for a long period. Hence the necessity of the safe drug and therapy is required. There are many drugs and measures are described and practiced for sleep disorder in ayurveda. Among them one has been taken to find out its efficacy on scientific parameters in present study. So a study had been planned to evaluate the effect of shirodhara with ashwagandha taila. It was presumed that this application may act as stress relieving and expanding one's consciousness, leading to relaxation for normalization and stabilization of the mental state to make the patient getting normal and sufficient sleep (Vagbhata 1993).

### Material and methods

This clinical study has been taken to evaluate the role of shirodhara with ashwagandha taila in the management of stress induced insomnia. We can also know that whether the postulated mechanism of shirodhara depends on medicament or procedural effect or both. For the present clinical study, 40 patients fulfilling the diagnostic criteria of sleep disorder were randomly selected from o.p.d. and i.p.d. of panchakarma and kayachikitsa department of Rishikul campus, Uttarakhand Ayurveda University, Haridwar.

### Aims and objective

The aim and object of study was to evaluate the efficacy of classical ayurvedic therapy shirodhara

### Inclusion criteria

- i) Age 20 years to 60 years.
- ii) Stress due to excessive mental work leading sleeplessness.
- iii) Disturbed sleep without any systemic dysfunction.
- iv) Restlessness in night due to stress or anxiety.

### Exclusion criteria

- i) Psychiatric disorder, schizophrenia, depressive illness, mania, bipolar mood disorder.
- ii) Drug effects e.g. sympathomimetic agents like dopamine, corticosteroids.
- iii) Drug withdrawal syndrome and toxicity like alcohol ingestion and withdrawal endocrine and

metabolic disorders

- iv) Insomnia or disturbed sleep due to systemic disorders e.g. hypertension, gastric irritation, IBS, headache etc.

### Criteria for assessment

The criteria of assessment was based on relief in sign & symptoms, improvement in mental and physical health and was assessed on the basis of score developed for grading (table 1-6).

**Table: 1. Characteristics of sleeplessness:**

No complaint	0
Patient gets sleep at night and early in the morning	1
Sleep is full of dreams / sleep disturbed due to other reason during night	2
Sleep disturbed at midnight due to any reason and does not get sleep afterwards.	3
Patient doesn't get sleep after resting in day time/gets sleep late at night and awakens early in the morning	4
Gets sleep after taking sedatives	5
Doesn't get sleep at all	6

**Table: 2. Disorder of sleep-wake schedule**

Normal schedule	0
Transient change	1
Frequently changing	2
Delayed sleep phase	3
Irregular phase	4
Non-24 hours syndrome	5

**Table: 3. Sleep quality**

Enjoyable sleep	0
Anxious or agitated before and during sleep	1
Feeling un-freshed and unrest after sleep	2
Sleep experience negative and not enjoyable	3

**Table: 4. Sleep time**

Adequate sleep (6-8 hours)	0
Inadequate night sleep (4-5 hours) with ½ to 1 hour day nap	1
Inadequate night sleep (4-5 hours) without day nap	2
Inadequate night sleep (2-3 hours)	3
Gets 1-2 hours night sleep with or without day nap	4
No sleep at night but gets 1-2 hours day naps	5
No sleep at all	6

**Table: 5. Feeling after awaking**

Fresh	0
Sleepy or fatigued	1
Poor concentration	2
Poor problem solving	3

**Table: 6. Associated symptoms**

Symptoms	Range
Akshigaurav	0-3
Shirogaurav	0-3
Alasya	0-3
Jrimbha	0-3
Angamarda	0-3
Glani	0-3
Bharma	0-3
Ajrna	0-3
Kshudamandya	0-3
Vibandha	0-3

**Criteria for the assessment of total effect (Table 7-12)**

- i) Considering the overall improvement in the patients in sign and symptoms, the total effect of the therapy has been assessed as below.
- ii) Complete remission (100% relief) in sign and symptoms.
- iii) Markedly improved more than 75% relief in sign and symptoms.
- iv) Moderate improvement 51-75% relief in sign and symptoms.
- v) Mild improved 26-50% relief in sign and symptoms.
- vi) Unchanged up to 25% relief in sign and symptoms.

**Table:7 Age wise distribution of 20 cases of insomnia**

Age (in year)	No. of patients	%
20-30	4	17.50
31-40	8	37.50
41-50	5	27.50
51-60	3	17.50

**Table:8 Sex wise distribution of 20 cases of insomnia**

Sex	No. of patients	%
Male	11	57.5%
Female	09	42.5%

**Table:9 Religion wise distribution of 20 cases of insomnia**

Religion	No. of patients	%
Hindu	16	77.50
Muslim	03	20.00
Sikh	01	2.50

**Table:10 Education wise distribution of 20 cases of insomnia**

Education	No. of patients	%
Illiterate	01	2.5
Primary	02	7.5
Secondary	02	12.5
H. secondary	03	17.5
Graduate	07	37.5
Post graduate	05	22.5

**Table:11 Occupation wise distribution of 20 cases of insomnia**

Occupation	No. of patients	%
Housewife	05	27.5
Service	04	22.5
Business	07	37.5
Student	03	10
Labour	01	2.5

**Table:12 Marital status wise distribution 20 cases of insomnia**

Marital status	No. of patients	%
Married	12	65
Unmarried	03	12.50
Widow	05	22.50



## Results and Discussion

The results for effect of shirodhara in 20 cases of insomnia are given in table 12 and 13 these clinical factors are also analysed statistically. Charaka has considered sleep among the three pillars for the maintenance of healthy life. There is a detailed description available about the merit of good sleep and demerit of sleeplessness or disturbed sleep in the text.

Charaka has stated that pleasure or grief, being fat or thin, strength or weakness, potency or impotency, to be wise or unwise depends on the sleep and sleeplessness consequently. Moreover, the quality of sleep is essential for a healthy and long life. In patients who were administered with shirodhara with ashwagandha taila got highly significant relief in symptoms characteristic of sleeplessness, disorder

**Table 13. Showing the effect of shirodhara in 20 cases of insomnia**

Criteria of assessment	Mean		X	% relief	SD	SE	't' value	'p' value
	BT	AT						
Sleeplessness	2.88	0.33	2.55	88.46	0.51	0.12	21.20	<0.001
Sleep-awake schedule	3.00	0.22	2.78	92.59	0.42	0.10	27.54	<0.001
Sleep quality	2.27	0.33	1.94	85.36	0.41	0.09	19.82	<0.001
Sleep quality	3.05	0.33	2.72	89.09	0.46	0.10	25.05	<0.001
Feeling after awakening	2.44	0.33	2.11	86.36	0.75	0.17	11.81	<0.001

**Table 13. Showing the effect of Shirodhara in associated symptoms in 20 cases of insomnia**

Symptoms	Mean		X	% relief	SD	SE	't' value	'p' value
	BT	AT						
Feeling of heaviness in eyes	2.50	1.00	1.50	60.00	0.61	0.14	10.29	<0.01
Heaviness in head	2.55	0.72	1.83	71.73	0.51	0.12	15.11	<0.001
Lethargy	2.50	0.88	1.62	64.44	0.50	0.11	13.62	<0.001
Yawning	2.50	0.88	1.62	64.44	0.50	0.11	13.62	<0.001
Body ache	2.55	0.94	1.61	63.04	0.50	0.11	13.62	<0.001
Sadness	2.66	1.05	1.61	60.41	0.60	0.14	11.24	<0.05
Giddiness	2.72	1.16	1.56	55.10	0.61	0.14	10.29	<0.01
Indigestion	2.61	0.88	1.73	65.95	0.57	0.13	12.71	<0.001
Anorexia	2.66	0.88	1.78	66.66	0.54	0.12	13.75	<0.001
Constipation	2.66	0.88	1.78	66.66	0.54	0.12	13.75	<0.001

BT- before treatment AT- after treatment

of sleep-awake schedule, sleep quality, sleep time and feeling after awakening. These effects were may be noticed due to the anti-stress properties, central muscle relaxant and tranquillising, sedative, hypnotic effect and antispasmodic effect of ashwagandha. Moreover, drugs of this formulation are mainly having properties to pacify the vitiated vata and pitta dosha in anidra. Furthermore, most of the drugs having mental cooling and refreshing properties too.

### Probable mode of action of shirodhara with aswagandha taila

Shirodhara is a procedure which comes under the external application of oil used for neuromuscular relaxation and nourishment. Shirodhara is a

relaxation therapy which relieves mental exhaustion as well as pacifies the aggravated vata dosha in head. It helps to normalise the function of central nervous system by relaxing the nervous system and balancing the circulation of blood in the head.

The probable mode of action of shirodhara can be explained under following points-

1. Mechanical effect
2. Effect of oil application over the head
3. Effect of drug, the oil processed with

**1. The mechanical effect** When a stream of liquid is poured on centre point of forehead, a specific sensation of touch is produced. The feeling of this



contact is like a stone dropped in a pool which extends outward producing wave. This effect lead a person to a state of concentration in turn relaxes the mind. The state of concentration enhances the release of serotonin, a neurotransmitter which is responsible for pleasant feeling and relieving the stress. During the process, the patient concentrate on the stream of fluid which is falling on his head, which increases the intensity of alpha brain waves and decrease the brain cortisone and adrenaline level. Thus it induces relaxation and natural sleep. During the procedure of shirodhara , patient feels relaxed physically as well as mentally. Relaxation of the frontalis muscle tends to normalise the entire body and achieve a decrease activity of CNS with lowering of brain cortisone and adrenaline level; synchronise the brain wave strengthens the mind and spirit and this continues even after the relaxation . Shirodhra directly influence the release of melatonin, a hormone responsible to induce sleep require further studies. Moreover, supine position also helps in relaxation.

## 2. Effect of oil application

It is well established that there is no better substance to suppress the fatigue other then oil. The external and internal application of oil is beneficial in management of neuromuscular disorder. As the concern of external application, the magic of oil massage is well witnessed. In the condition of mental stress, there is aggravation of vata dosha and raja dosha. By the application of oil over the head, the dryness of skin subsides and in turn kapha dosha increases. The increment of kapha dosha enhances the tama, which counteracts the raja dosha. Ultimately this process nourishes the essential components of body and helps to get ride the problem like insomnia.

**3. Effect of drug ( the oil processed with ):** The main ingredient of this oil, the *Withania somnifera* have vata-pitta suppressant and nutritive properties acting on senses, mind and Brain. Moreover, this drug is

anti-stress, tranquiliser and sedative, which helps in pacifying the pathogenesis of insomnia .By this way it corrects the mechanism of sleep in an individual suffering of sleeplessness or disturbed sleep. Probably shirodhara normalise the two important neurotransmitters serotonin and nor-epinephrine, which regulate a wide variety of neuropsychological processes along with sleep. Hence shirodhara with oil has a calming, penetrating and cooling effect on head and thus helpful in normalising the sleep.

## Conclusion

The shirodhara procedure with ashwagandha taila, sesame oil processed with *Withania somnifera* is very effective in management stress induced insomnia and associated symptoms. The study reveals that Shirodhara has a great stress relieving and tranquilizing effect. It is a quit effective and non-habit forming procedure. Shirodhara is a better and safe treatment method, which normalizes the different aspects of sleep i.e. sleeplessness, disorder of sleep awake schedule , sleep quality, sleep time and felling after awaking. Shirodhara has a long lasting effect.

## References

- Agnivesha; *Chikitsa sthana; Charak samhita*, revised by Charaka and Dridabala, 18<sup>th</sup> Edn, Chowkhamba Orientalia, Varanasi, 28<sup>th</sup> ch
- A.R.V. Murthy 2009., *Rationale of Ayurvedic Psychiatry*, 1<sup>st</sup> Ed, 2009, p 71,103,111,131
- John A.A. Hunter, Davidson's *Principles and Practice of Medicine*, 19<sup>th</sup> Ed, ch 22, p1133
- Kashinath Pandey, Gorakhnath Chaturvedi, 2009. *Charak Samhita* Vol 1 (Chapter 11, Sutrasthan 11/35), 2009, Varanasi, Chauk ambha Sanskrit series publication, p. 227.
- Niraj Ahuja, 2002 *A Short Textbook of Psychiatry*, 5<sup>th</sup> Ed, 2002, ch11, p140-148
- Vagbhata, *AshtangHridaya*, *Chikitsa sthana*, 11<sup>th</sup>Ed, 1993, Chou khamba Sanskrit Sansthan, Varanasi

