

Effect of *Shirodhara* with *Ksheerbala* oil in stress induced insomnia (*Anidra*): A Case study

Case Report

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Abstract

Sleep is counted as one of the three pillars of a body. Any disruption from normal sleep pattern affects physical, mental and emotional wellbeing. *Kapha Dosha* is responsible for sound sleep and aggravation of *Vata* and *Pitta Dosha* is responsible for *Anidra*. *Shirodhara* therapy is among the widely prescribed *Panchakarma* procedures for the treatment of *Anidra*. This is a case of a thirty-six years old male patient who was suffering from difficulty in falling and staying asleep along with associated complaints like excessive yawning, drowsiness, giddiness, heaviness in the head, body stiffness and indigestion for a year. Covid 19 pandemic acted as a stress trigger in the patient. Signs of any other systemic illness were absent. The patient was treated with *Shirodhara* with *Ksheerbala* oil for fourteen days. The insomnia severity index score reduced from 15 to 5 after treatment and the associated symptoms grading score reduced from ten points to two points. *Shirodhara* therapy not only reduced insomnia severity index score but also improved the quality of sleep and provided relief to associated complaints.

Key Words: *Anidra, Insomnia, Ksheerbala oil, Panchakarma, Shirodhara.*

Introduction

The importance of sleep in the maintenance of physical and mental health has been highlighted by various ayurvedic scholars. *Acharya Charak* has explained *Nidra* as *Bhutdhatri* (1) which occurs by nature at night and that nourishes all human beings. According to *Acharya Charak* proper sleep brings happiness, strength, good health, sexual power, knowledge, and longevity in our life and any sleep disruption brings the opposite to this (2). *Kapha Dosha* is responsible for sleep and the aggravation of *Vata-Pitta* and *Raja Dosha* disrupts sleep. Physical as well as mental factors like stress, grief, and anger (3) are mentioned as causative factors of *Anidra* (insomnia). Sleep has a direct effect on the physical as well as mental health of a patient. Lack of sleep may trigger many psychological harms and due to a circular relationship between insomnia and mental health, timely intervention is necessary. *Sechan* (parisheka) with *Ghrith* or *Taila* is done for treating *Anidra* as it brings stability of mind and voice, strengthens the body, stimulates the appetite, enhances patience, softens the speech, brings softness in skin, increases the blood and sperm quantity, reduces the excessive heat, brings

longevity of life, and enhances good sleep (4). *Shirodhara* is a *Panchakarma* procedure that has shown good results in the treatment of insomnia, anxiety, stress, headache, hypertension (5). *Ksheerbala* oil is indicated for all eighty types of *Vata* disorders (6), so was chosen here for *Shirodhara*.

Case report

The present case is of a thirty-six-year-old, male, middle socioeconomic class patient who presented with complaints of difficulty in falling asleep (1.5- 2hrs.), staying asleep and frequent awakenings at night (3-4 times without any specified reason) for a year. Sometimes, he was unable to sleep till morning. Associated complaints were excessive yawning, drowsiness, heaviness in the head, indigestion and body ache which were affecting his daily office and routine activities. The problem started after the job switch. He got affected by covid-19 infection six months back and since then the problem aggravated.

General physical examination

Patient had *Vata-Pitta* type of body constitution, *Madhyama Sara-Sahnanan-Satva-Satmya*, *Madhyama Vyayama Shakti*, *Madhyama Ahara Shakti*, *Avara Jarana Shakti*, *Madhyama Bala*. Blood pressure and pulse were in the normal range. Day sleeping habit was not present.

Personal history

Appetite was normal. The bowel was mild constipated. Use of mobile phones and laptops was

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excessive (9-10 hrs. a day). Alcohol drinking frequency was once a week. Cigarette smoking was 4 cigarettes/day. Had a habit of excessive thinking and a tendency to get anxious easily.

Systemic examination

Systemic examination findings were normal.

Diagnostic assessment

Diagnosis of insomnia was made based on the insomnia severity index scale (7). The score was 15 (clinical insomnia with moderate severity). A self-assessment scale was prepared to assess symptoms of *Anidra* (8) mentioned in ayurvedic texts.

Timeline of events

- Before December 2020- The patient was asymptomatic
- December 2020 – Patient had workplace shift
- After December 2020- Started developing mild symptoms.
- June 2021- Patient suffered from covid-19 infection
- July 2021- Patient recovered from covid infection but symptoms of insomnia worsen
- 20 December 2021- The patient came to our OPD for seeking ayurvedic *Panchakarma* treatment for the problem.
- 21 December 2021- Before treatment assessment was done and *Shirodhara* procedure started.
- 3 January 2022- After treatment assessment was done after completion of 14 days of the *Shirodhara* procedure.
- 17 January 2022- Follow up assessment was done.

Therapeutic intervention

Shirodhara with *Ksheerbala* oil was done for 14 consecutive days. Lukewarm (~ 40 C) oil was dripped in a slow and oscillated manner on the forehead for 45 minutes a day. Complete oil was changed after every third day. Oil was dripped from a height of 4-5 inches with the help of a cotton wick attached to the Dhara vessel. After surpassing the natural urges patient was asked to lie down on *Droni* (*Shirodhara* table) and a thick cord prepared with cloth and cotton was tied around the head just above the ears and eyebrows. The eyes were closed with cotton pads and the ears with earbuds. After procedure the cloth, cotton pads and earbuds were removed and excess oil was soaked with the help of cotton, and *Rasnadi Churna* was applied over forehead. The patient was advised to tie his head with a cloth, not to go to open spaces to avoid direct contact with cold air, warm water bath after an hour and light and warm food (like soup) after an hour. The procedure was done at around 12-1 pm. (the time was chosen keeping in mind the cold weather condition) every day for fourteen consecutive days.

The patient was told to maintain a sleep-wake chart during the treatment and was asked to go to bed at a fixed time. *Shirodhara* was stopped after 14 consecutive days but the patient was asked to maintain records even after completion of treatment.

Observations and Results

The patient was observed for a total duration of twenty-eight days based on grading of ayurvedic parameters and insomnia severity index rating scale (7).

Table 1: Sleep-wake chart

Date	Time to go to bed	Time taken to fall asleep	Number of awakenings during night	Time of morning awakening
21/12/21	11:00 PM	1.5 hrs.	4	7:30 AM
22/12/21	11:00 PM	1.5 hrs.	2	7:30 AM
23/12/21	11:00 PM	1 hr.	3	7:30 AM
24/12/21	11:00 PM	1 hr.	2	7:30 AM
25/12/21	11:00 PM	45 min.	2	7:00 AM
26/12/21	11:00 PM	45 min.	2	7:00 AM
27/12/21	11:00 PM	40 min.	1	7:00 AM
28/12/21	11:00 PM	30 min.	1	7:00 AM
29/12/21	11:00 PM	30 min.	1	7:00 AM
30/12/21	11:00 PM	30 min.	1	7:00 AM
31/12/21	11:00 PM	20 min.	1	7:20 AM
01/01/22	11:00 PM	20 min.	0	7:15 AM
02/01/22	11:00 PM	20 min.	0	7:00 AM
03/01/22	11:00 PM	20 min.	0	6:30 AM

Table 2: Before and after treatment assessment on the basis of insomnia severity index

Symptoms	Before Treatment (21/12/21)	After Treatment (03/01/22)	Follow Up At 28 th day (17/01/22)
1.Difficulty falling asleep	2	0	0
2.Difficulty staying asleep	2	0	0
3. Problems waking up too early	0	0	0
4.Satisfied/ dissatisfied with current sleep pattern	3	1	1
5. Impairing the quality of life	2	1	1
6.Worried/ distressed about current sleep problem	4	2	1
7.Interfere with daily functioning	2	1	0
Total score	15	5	3

Table 3: Grading of associated complaints

S. No.	Symptoms	Grading
1	Nil	0
2	Mildly affecting work during day time	1
3	Moderately affecting work	2
4	Severely affecting work	3

Table 4: Before and after treatment assessment of associated complaints

S. No.	Symptoms	B.T. (21/12/2021)	A.T. (03/01/2022)
1	<i>Jrumbha</i> (yawning)	2	1
2	<i>Tandra</i> (Drowsiness)	2	0
3	<i>Angamarda</i> (Body ache)	1	0
4	<i>Bhram</i> (Giddiness)	0	0
5	<i>Shiro Gaurav</i> (Heaviness)	3	0
6	<i>Jadyata</i> (Stiffness)	0	0
7	<i>Apakti</i> (Indigestion)	2	1
8	<i>Glani</i> (Nausea)	0	0
	Total	10	2

Discussion

Stress is a common factor to induce insomnia. The hypothalamic-pituitary-adrenal axis regulates the body's hormonal response to stressful situations. In this case, fear of losing the job and job shift due to covid pandemic and getting suffering from covid infection act as a stress trigger to induce insomnia. The covid pandemic has raised significant stress due to various concerns related to health, unemployment and social isolation, has affected the lives of many directly or indirectly. Studies also revealed very high rates of clinically significant insomnia (20%), acute stress (15.8%), anxiety (18.5%), and depression (24.5%) related to covid-19 pandemic. *Shirodhara* is one of the widely used therapeutic ayurvedic procedure for insomnia and stress related disorders. The fact has been supported by numerous studies carried out on the same (9,10). *Shirodhara* has provided significant relief in the grading of the POMS Score (Profile of Mood States questionnaire) and it affects biomarkers of stress- Sr. Cortisol and DHEA, as well. This reflects the action of *Shirodhara* on HPA axis (11). A state of alert calmness similar to the relaxation response observed in meditation was observed after *Shirodhara* which was predicted based on a decrease in breathing rate, a decreased diastolic blood pressure along with reduction in heart rate and increase in alfa rhythm in EEG (12). *Shirodhara* also stimulates the various vital points all around the head and improves blood circulation. The warm herbal oils used for this process causes vasodilation of all the blood vessel and thus improves the blood circulation in the brain. Probably massage and *Shirodhara* regulate the melatonin level and bring

down the elevated level of serotonin, a neurotransmitter that stabilizes our mood, feeling of well-being, and happiness. Insomnia is a result of *Vata-Pitta* and *Raja Dosha* aggravation and *Ksheerbala* oil is a good choice for the disease as oil is the best option to suppress elevated *Vata* and the contents used in *Ksheerbala* oil are having *Madhura Rasa* and *Vipaka* which is best to mitigate *Vata-Pitta*. It gives strength to the tissues and is good for sense organs and pleasing to the mind (*shadindriyaprasadak*), nourishes the body (*tarpayati*) and plays a major role in promoting life (*jeevayati*) (13). In the present case, *Shirodhara* helped in reducing the ISI scoring from 15 points to 5 points, improved the duration of sleep along with the quality of sleep and helped the patient in improving the work performance by improvement in associated complaints.

Conclusion

Shirodhara with *Ksheerbala* oil produces relaxing and calming effects through its action on HPA axis and various neurotransmitters. The present case is another example establishing the role of *Shirodhara* in stress-induced insomnia. It not only reduces score in Insomnia severity index grading and associated complaints but also helped the patient in gaining mental and emotional stability by performing better at workplace as well as in personal aspects.

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