



Case Study

SEVERE CLINICAL INSOMNIA MANAGEMENT WITH AYURVEDIC PROTOCOL - A CASE REPORT

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ABSTRACT

Insomnia is characterized by inability to sleep or lack of sleep. Severe clinical insomnia is a highly prevalent health concern faced by a wide majority of people across the globe due to the rise in stressful external environments. Often such cases require long term use of sedative hypnotics or tranquilizers which are habit forming. Ayurveda identifies insomnia as *Nidranasa* and is a disease which is caused predominantly by *Vata Pitta* increase and a dip in *Kapha* levels. Ayurvedic treatment protocol involves internal medication and topical procedures like *Shirodhara* and *Abhyanga*. This case report is intended to throw light to a positive outcome of Ayurvedic treatment protocol in severe clinical insomnia. A 34-year-old male presented with symptoms of severe clinical insomnia assessed by Insomnia Severity Index (ISI) associated with obesity and had a history of consuming hypnotics. The treatment protocol included *Dhanyamladhara*, *Udvartana*, *Takradhara*, *Abhyanga* and *Shirodhara* along with disease specific internal medicines. The ISI score before treatment of 26 came down to 1 after treatment and was maintained during 3 months follow up. This displays the complete remission of the disease without the use of habit-forming internal medication.

INTRODUCTION

The Latin words "in" (no) and "somnus" (sleep) are the source of the English word "insomnia."⁽²⁾ The most common way to diagnose insomnia is if a person reports having trouble falling asleep. Long sleep latency, numerous nocturnal awakenings, extended waking periods throughout the sleep phase, or even a high frequency of fleeting arousals are considered indicators of insomnia. As a result, sleeplessness has been viewed as both a symptom and an indication. If insomnia meets the following requirements, it can be classified as a disorder. 1. Trouble falling asleep, remaining asleep, or non-restorative sleep; 2. This issue persists even in the phase of sufficient opportunity and conditions for sleep; 3. This sleep impairment is linked to impairment or discomfort during the day; and 4. This trouble sleeping occurs at least three times a week and has persisted for a minimum of one month.^[1]

According to numerous studies, between 33 and 50 percent of adults have symptoms of sleeplessness, making it a rather prevalent ailment. The general population experiences a prevalence of 10% to 15%, with higher rates observed in those who are older, female, white, divorced, separated, or widowed, as well as in the presence of co-morbid medical or psychiatric illnesses. Of all adults, 10% suffer from chronic insomnia, and 30% report sporadic insomnia, of which 40% may be related to a mental health condition. Even with these high prevalence rates, research indicates that insomnia is largely under diagnosed, undertreated, and poorly understood. Over follow-up periods ranging from one-to-many years, 50–85% of people still report persistent insomnia.^[2]

The International Classification of Sleep Disorders 2 codes insomnia under the broad heading of dyssomnias, either intrinsic or extrinsic sleep disorders. Based on the severity, it classifies insomnia into three types Mild, Moderate and Severe. Severe insomnia is characterized by a regular complaint of not getting enough sleep at night or not feeling fully rested after a regular sleep cycle. It is accompanied by severe impairment of social or occupational functioning. Severe insomnia is associated with feelings of restlessness, irritability, anxiety, daytime fatigue, and tiredness.^[2]

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In Ayurvedic nomenclature, lack of sleep is termed as *Nidranasa*. It is enlisted as one among the 80 diseases caused by *Vata dosa* alone. Even though it is enlisted in such a category, *Nidranasa* is an interplay of all 3 *Sareerika dosas* (body humors)- viz., *Vata*, *Pitta* and *Kapha* and the 2 *Manasika dosas* - (psychic attributes) *Rajas* and *Tamas*. Moreover, Ayurveda considers sleep to be one of the 3 pillars of life making it pivotal in maintaining healthy living.^[3]

Often *Nidranasa* persistent over a long period of time leads to somatic manifestations like fatigue, vague pains, psychological distress which further creates a vicious cycle promoting further lack of sleep. Here we have a similar presentation where the lack of sleep over a significant period of time leading to derangements in other domains of the body.

Ayurvedic treatment protocol for insomnia often deals with non-habit-forming herbal or herbomineral medications and topical treatments which is expected to balance the concerned body humors when compared to the modern-day tranquilizers.

Symptoms Duration Past Medication

Difficulty initiating sleep	4 years Started as 3 nights per week Progressed to more than 3 in the past 1 year	Sedative hypnotics Intermittently Magnesium citrate Valerian root
Difficulty maintaining sleep		
Frequent awakenings at night		
Difficulty in returning to sleep after awakening		
Early morning awakening		
Difficulty to return to sleep after early morning awakening sleep apnea		

Past Medical History

Patient is not a known case of diabetes mellitus or hypertension or any other comorbidities.

Family History

Patient had no relevant family history

Psychosocial History

The patient's diet was varied, consisting of eggs, dairy products, meat, and processed foods. The patient occasionally drinks alcohol as well. For six years, the patient was subjected to military discipline and worked in combat zones. He later moved into the IT industry, where lengthy hours were required of sitting. The patient experienced a number of traumatic events at work at first, and in subsequent years, also lost close family members and friends. This is a clear indicator of how the *Manasika Dosas* (psychic attributes) might have been in imbalance for a prolonged period of time along with the over stimulation of sensory organs.

Patient Information

A 34-year-old male with a height of 180.34cm and weight of 108.2kg presented with complaints of difficulty in initiating sleep, difficulty in maintaining sleep, frequent awakenings at night, difficulty in returning to sleep after awakening, early morning awakening and difficulty to return to sleep after early morning awakening in the past 4 years. Patient also had episodes of sleep apnea for which he had resorted to sleep devices as well. Patient also started gaining weight and developed vague pains all over the body which sometimes localizes to the low back.

Clinical Findings

General Appearance: Co-operative and pleasant
 Built: Mesomorphic
 Nourishment: Well nourished
 BMI: 33.3 kg/m²
 Pallor, icterus, clubbing, cyanosis, lymphadenopathy, oedema: Absent

Ayurvedic Examination

Dasa Vidha Pariksha (ten-fold examination of patient)
 Prakrti: *Vata-Kapha*.
 Sara: *Madhyama* (medium)
 Samhanana: *Madhyama* (medium)
 Pramana: *Madhyama* (medium)
 Satmya: *Vyamisra Satmya* (accustomed to consumption of mixed types of foods)
 Sattva: *Avara* (poor)
 Ahara Sakti [*Abhyavaharāṇa Sakti: Madhyama* (medium), *Jarana Sakti: Madhyama* (medium)]
 Vyayama Sakti: *Pravara* (optimal)
 Vaya: *Madhyama* (medium)

Diagnosis and Pathophysiology

Insomnia is categorized as a sleep-wake disorder in the fifth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The International Classification of Sleep Disorders, Third Edition (ICSD-3) criteria are consistent with the changes to the DSM-5^[4].

In this case Ayurvedic diagnosis is made by evaluating the affected *Manasika* and *Sareerika dosas*. Though primarily *Nidranasa* is caused by *Vata-Pitta vridhi* (excess), here we can also trace the presence of *Kapha vridhi* caused due to hampered metabolic fire or

Agni resulting in obesity of the patient. Addressing the *Agni* and the *Kapha vridhi* initially with *Rookshana* (treatments involving external and internal dehydration and metabolism correction) and further addressing the *Vata Pitta*. Since the pathology also involves disturbance of mental faculties and sensory overstimulation, soothing treatments like *Shirodhara* is also ideal.

The predominance of unctuous attribute or *Snighdha Guna* in the patient also requires a *Rukshana* procedure as a counter acting treatment.

Therapeutic Intervention

Timeline of events

Day	Medicines	Procedure	Duration
04/06/2023 to 10/06/2023	<i>Dhanyamla</i> (sour rice gruel)	<i>Dhara-Body</i> (slow and steady dripping of medicated liquid)	7 days
11/06/2023 to 17/06/2023	<i>Panchagandha churna</i> , <i>Jatamansi</i> , <i>Takra</i> (buttermilk)	<i>Takradhara- Head</i> (slow and steady dripping of medicated liquid)	7 days
18/06/2023 to 24/06/2023 25/06/2023 to 29/06/2023 30/06/2023 to 04/07/2023	<i>Kolakulathadi churna</i> <i>Ksheerabala Taila</i> <i>Ksheerabala Taila</i>	<i>Udvertana</i> (medicated powder massage) <i>Abhyanga</i> (oil massage) <i>Shirodhara</i>	7 days 5 days 5 days

Internal medication during treatment

1. *Drakshadi Kashaya* 60mlbd
2. *Kalyanaka Kashaya* 60ml bd
3. *Gandharvahastadi Kashaya* 60ml bd
4. *Sweta sankhupushpi churna* 5g bd with warm milk – during *Abhyanga* and *Shirodhara*

The *Dhanyamladhara* was performed for duration of 40 min with the aim of addressing the *Vata-kapha dosa*. The *Takradhara* which was aimed at *Tridosha* was done for duration of 40 min with regular oscillatory movements. *Udvertana* was done for 40 min by slightly heating and rubbing the powdered medicines in an upward direction or opposite to the blood flow. *Abhyanga* was done for 40 min with oil heated up to 39°Celsius. *Shirodhara* was done with lukewarm *Taila* which was allowed to pour over the forehead in an oscillatory motion.

Outcome Measures and Results

The severity of insomnia was assessed by Insomnia Severity Index Scale^[5]. The outcome measures ISI was administered at baseline and at the end of 32 days of Ayurveda treatment protocol. Before treatment and after treatment values of insomnia severity index improved from 26 to 1 respectively.

Insomnia Severity Index Scale (ISI)		
Insomnia Severity Index Scale		
Complaints	02/06/2023 (Before)	04/07/2023 (After)
Difficulty falling asleep	2 (Moderate)	0 (None)
Difficulty staying asleep	4 (Very Severe)	0 (None)
Problems waking up too early	4 (Very Severe)	0 (None)
Satisfied with current sleep pattern	4 (Very Dissatisfied)	0 (Very Satisfied)
Noticeable to others	4 (Very Much)	0 (Not at all noticeable)
Worried/Distressed	4 (Very Much)	1 (A Little)
Interfere daily functions	4 (Very Much)	0 (Not at all interfering)
Total Score	26	1

The before and after scores suggest that the patient's condition went from a state of Severe clinical insomnia to a state of No clinically significant insomnia.

The assessment at the end of a follow up period of 3 months also revealed maintenance of the ISI score similar to end of treatment.

Medicine /Procedure	Property
<i>Drakshadi Kashaya</i>	<i>Vata pitta Samana</i>
<i>Gandharvahastadi Kashaya</i>	<i>Vata samana, Agni Deepana, Anulomana</i>
<i>Kalyanaka Kashaya</i>	<i>Vata pitta samana, Graha nasana</i>
<i>Sweta sankhupushpi churna</i>	<i>Medhya (improves cognition), Dipana (carminative)</i>
<i>Dhanyamla dhara</i>	<i>Vata kapha hara</i>
<i>Takra dhara with Panchagandha churna, jatamansi</i>	<i>Tridosha hara, Manovikara hara, Nidrajanaka (address psychic disturbances and induce sleep)</i>
<i>Kolakulathadi churna udvartana</i>	<i>Vata kapha hara, Medo hara (reduces body fat)</i>
<i>Ksheerabala Taila</i>	<i>Vata pitta hara, Nidrajanaka</i>

DISCUSSION

The treatment protocol resulted in significant improvement of the insomnia symptoms showing the efficacy the selected Ayurvedic protocol. The *Dhanyamla dhara* due to its cooling property when used as a topical treatment targets the *Pitta dosa* and by nature *Dhanyamla* pacifies the *Vata kapha dosa* as well. The procedure also corrects the metabolic errors and prepares the patient for the next treatment.^[6] Medicines like *Panchagandha churna* and *Jatamansi* provides a soothing effect to the mind and the *Takradhara* (medicated buttermilk) is proven to enhance parasympathetic activity and decrease sympathetic activity.^[7]

Takradhara also enhances sleep quality and decreases perceived stress^[7]. In this case the impact of psychosocial factors and stress are noteworthy in the pathology of the disease. *Udvartana* aids in breakdown of triglycerides/cholesterol present in subcutaneous tissue into fatty acids which helps in reducing body fat and obesity^[8]. *Abhyanga* with *Ksheerabala taila* helps in tackling the deranged *Vata* and *Pitta dosa*. Various strokes involved in *Abhyanga* stimulates the skin and thereby all the sense organs and the mind positively. Hence *Abhyanga* holds a very important place in treatment protocol of psychosomatic and stress related disorders. *Shirodhara* is a very important treatment step concerning disorders of the head region. Akiko et al.'s study compares the benefits of warm water *Shirodhara* (WWS) and sesame oil *Shirodhara* (SOS) for enhancing sleep and quality of life (QOL). According to their research, SOS is a potentially safe treatment that can help people with sleep disorders have better-quality sleep and a higher quality of life.^[9] According to Ayurveda, *Shirodhara* might be effective if the *Vata dosha* in the head area is decreased. *Vata dosha* is understood to be in charge of the mind's movement of thoughts, according to Ayurveda. In the Ayurvedic system, oil and *Takra*

(buttermilk) have both been used to lessen *Vatadosha*. Thus, by lowering the *Vata dosha* in the head region, *Shirodhara* calms the mind. The combination of the medication and the technique (slow stream flow and oscillatory *Dhara* movement in a peaceful setting) may have contributed to improved sleep quality and mental calmness.^[10] The effects have been further enhanced by the usage of *Ksheerabala taila*, which is also advised in cases of insomnia and sleep disturbances. The prolonged positive outcome persisting even after a 3 month follow up also portrays the long-term benefits of external treatment procedures.

CONCLUSION

In order to treat and identify severe clinical insomnia, which frequently goes untreated, patients must be managed with habit-forming hypnotics or tranquilizers. Sleep deprivation slows down metabolism and agitates other psychological disorders. The Ayurvedic treatment program presents a potentially effective and all-encompassing approach to address all aspects of insomnia without having a habit-forming effect and imparts a better quality of life.

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