

"REJUVENATING SLEEP NATURALLY: A SINGLE CASE STUDY ON JALAUKA AVACHARAN (BLOODLETTING THERAPY) IN TREATING NIDRANASHA W.S.R TO INSOMNIA"

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ABSTRACT

Introduction: *Nidranasha* in *Ayurveda* refers to sleep deprivation, influenced by stress, aging, health issues, and *Doshas* imbalances, especially *Vata* and *Pitta*. Insomnia disrupts sleep maintenance. *Ayurveda* offers treatments like Hirudotherapy (leech therapy). This study explores *Jalaukaavacharan*, a bloodletting procedure using medicinal leeches, to balance *Doshas* and manage insomnia effectively. **Patient Information** - A 40-year-old male patient experienced sleep disturbances for a year. Despite using conventional modern medicine, he did not achieve satisfactory results. **Therapeutic Intervention** - The patient underwent leech therapy for six weeks, which led to significant improvement. **RESULT:** Notably, with two successive sitting of *jalaaukaavacharan*, a reduction in the PSQI score from 17 to 7, 2 successive sittings of treatment was observed.

Conclusion- Findings from this study indicate that *Jalaukaavacharana* may offer substantial relief for individuals suffering from *Nidranasha*.

KEYWORDS: *Nidranasha*, *Jalaukaavacharan*, *Ayurveda*, Insomnia, PSQI, Case Report.

INTRODUCTION

In daily life, humans encounter various health challenges, necessitating a strong and healthy body and mind to overcome them. *Ayurveda*, known as the "science of life," prescribes several fundamental principles (*Siddhantas*) that must be followed to maintain overall well-

being. *Ayurveda* emphasizes three essential pillars of health: *Aahara* (diet), *Nidra* (sleep), and *Brahmacharya* (celibacy). One of these essential principles is *Nidra* (sleep), which is recognized as a vital component of *Trayo Upastambha* (the three supporting pillars) in *Ayurveda*.^[1] Sleep plays a crucial role in sustaining good health. Adequate and restful sleep helps individuals prepare for daily activities, rejuvenates both the mind and body, and enhances overall well-being by improving efficiency, emotional stability, and cognitive function.^[2] Studies suggest that inadequate or inconsistent sleep may contribute to several health issues.^[3] India's survey conducted by the WHO revealed approximately 35% of participants experiencing mild to severe sleep disturbances.^[4] *Ayurveda* recognized the significance of sleep centuries ago, identifying its causes, symptoms, and remedies. By adhering to *Ayurvedic* principles, individuals can manage *Nidranasha* (insomnia) and prevent sleep-related disorders. In contrast, modern medicine primarily relies on sedatives and hypnotic drugs, such as benzodiazepines, to treat insomnia, yet it lacks a definitive cure. *Nidra* (sleep) occurs when an individual disengages from daily responsibilities and experiences mental fatigue due to excessive work.^[5] Understanding and incorporating *Ayurvedic* insights on sleep can help in addressing sleep disorders effectively.

Importance of *Nidra* (Sleep)^[6]

Ayurveda highlights the significance of *Nidra* (sleep) as overall health well-being, plays a crucial role in:

- Enhancing happiness and emotional well-being.
- Preserving the body's balance and stability.
- Boosting physical strength and vitality.
- Improving cognitive functions, including brainpower and mental clarity.
- Ultimately, sustaining life by preventing various health disorders.

Definition of *Nidranasha* (Insomnia)

Nidranasha (Insomnia).^[7,8,9] refers to difficulty in restful sleep, early wake without achieving proper sleep, or experiencing fatigue despite sleeping. In modern medical science, various definitions of insomnia have been proposed. The American Medicine Institute (1979) introduced the concept of “unsatisfactory sleep,” describing insomnia as a persistent complaint of inadequate sleep nearly every night or feeling fatigued after a typical sleep duration.^[10] Insomnia, also known as *Agrypnia*, is not classified as a diagnosis but rather as a symptom or a collection of symptoms forming a syndrome. It is typically described as the

experience of inadequate or low-quality sleep, even when sufficient time is available for rest. This condition often results in waking up feeling unrefreshed, experiencing fatigue during the day, or both.^[11]

AIM

This article aims to evaluate the effectiveness of **leech therapy** and its procedural approach in managing *Nidranasha* (Insomnia).

METHODOLOGY

Research Framework

- A single-arm clinical study was conducted.
- Ethical clearance was ensured by obtaining informed consent from the patient before initiating treatment.
- The study focuses on a 40-year-old male patient suffering from *Nidranasha* for the past year.
- Pittsburgh Sleep Quality Index score assesses symptoms severity.
- The patient was treated using *Jalaukaavacharana* (leech therapy).

PATIENT INFORMATION

A 40-year old male visited outpatient department (OPD) with persistent headaches, sleep disturbances complaints for the past year. Assessment using Pittsburgh Sleep Quality Index indicated diagnosis of insomnia. Despite undergoing conventional modern treatment, he did not experience satisfactory relief. The patient had no history of hypertension (HTN) or diabetes mellitus (DM) or any other significant past medical conditions and no history of prior surgical interventions. In the *Ashtavidha Pariksha* (Eightfold Examination), the pulse is identified as *Pitta Vataja*, stool is *Nirama*, and urine is *Prakrita* (normal). The tongue shows *Aama* (coated), speech is *Sphasta* (clear), and temperature is *Samasheetoshana* (afebrile). Vision is *Prakrita* (normal), and body build is *Madhyama* (normosthenic).

Systemic examination reveals no abnormalities in the respiratory system (RS), cardiovascular system (CVS), or central nervous system (CNS). Per abdominal examination is unremarkable, and both superficial and deep tendon reflexes are normal. ECG findings are within normal limits, and routine blood investigations show values within the normal range.

Laboratory investigations indicate a hemoglobin level of 13.6 gm%, bleeding time of 3 minutes and 45 seconds, and clotting time of 8 minutes and 50 seconds. The platelet count is 3.22 lacs/cumm. Additionally, tests for HIV, HBsAg, and HCV are negative.

Assessment Tool

PSQI, self-reported questionnaire evaluate sleep quality over period of **1.5 months**.

Materials Required for Leech Therapy

- Two small glass jars, a kidney tray, and a large bowl
- Sterilized gauze, swabs, and gloves
- Sterile needle and a 5 ml sterile disposable syringe
- Savlon and dressing materials
- Turmeric powder

Method of *Jalaukavacharana* (Leech Therapy)

Leech therapy is performed in three sequential stages

✦ *Purva Karma* (Pre-Procedural Protocols)

- The Scalp was the site of leech application so it was thoroughly cleaned.
- Leeches were placed in turmeric-infused water, which activates inactive leeches.

✦ *Pradhana Karma* (Main Procedural Steps)

The main procedure follows these steps

- The scalp of the patient is cleaned and sterilized with warm water.
- The leeches undergo *Shodhana* (purification) by being immersed in turmeric water for 15 minutes, followed by plain water for 5 minutes.
- A sufficient number of purified leeches are applied one by one to the site. (Figure 1 *Jalaukaavacharan* at govt. ayurvedic college Patna, Bihar)
- Once attached, the leeches remain in place and covered with wet cotton until they become fully distended with blood, after which they detach naturally. (Figure 2)
- Leech therapy was repeated every 7 days, upto 6 successive sittings.
- The wound is dressed using *Haridra* (*Curcuma longa*) powder.

✦ *Paschat Karma* (Post-Procedural Protocols)

- Once the leech get detached, its body is gently massaged with rice powder, and its mouth is cleaned with Mustard oil and salt to induce proper vomiting.

- The vomited leeches were placed back into a glass jar for future use.
- The water in the jar was chlorinated and replaced every six days to maintain hygiene.



Figure 1: *Jalaukaavacharan* at govt. ayurvedic college & hospital, Patna, Bihar.



Figure 2: Leeches covered with wet cotton pad.

Leech Bite and Its Effects

- After detachment, the leech leaves a characteristic 'Y'-shaped bite mark on the skin due to its anterior sucker.
- The saliva of the leech contains natural painkillers and anesthetic substances, which minimize discomfort during the procedure (Michalsen et al., 2007).

OBSERVATIONS

PSQI,^[12] commonly utilized for measuring sleep quality, pattern in adults. It effectively distinguishes between "good" and "poor" sleep by analyzing **seven essential components**:

- Perceived sleep quality
- Sleep latency
- Total sleep duration
- Sleep efficiency
- Sleep disruptions
- Dependency on sleep medication
- Impairment in daytime functioning

These domains were measured over a period of one and a half month to assess the severity of sleep-related issues.

In this study, the **PSQI score of the patient was recorded as 17** at the time of admission, indicating **severe sleep disturbance**. However, after 6 successive sittings of **leech therapy treatment**, the **PSQI score reduced to 5**.

★ **Table No. 1: Pittsburgh Sleep Quality Index Questionnaire.**

S.NO.	PSQI Assessment Questions	10/10/24	24/10/24	14/11/24
1.	Bedtime?	11PM	11PM	11PM
2.	Sleep Onset?	>60 MIN	<60 MIN	<60MIN
3.	Wake-Time?	7:30 AM	7:00 AM	7:00 AM
4.	Hours of sleep?	5hrs(2)	6hrs(2)	7hrs(1)
5.	Sleep disturbances frequency?			
	Difficulty falling asleep within 30 minutes	3	2	2
	Nocturnal awakenings?	2	1	1
	Nocturnal urination?	2	1	0
	Difficulty breathing comfortably	0	0	0
	Loud snoring or coughing	0	0	0
	Cold-related sleep disturbance?	0	0	0
	Hot related sleep disturbance?	0	0	0
	Experiencing bad dreams	0	0	0

	Pain	0	0	0
	Other reasons	0	0	0
6.	Sleep medication use frequency?	2	0	0
7.	Daytime sleepiness frequency?	1	1	1
8.	Loss of interest frequency?	2	0	0
9.	Overall sleep quality rating?	3	0	0
Total score (Final PSQI Score Calculation)		17	7	5

Source – Author's Creation

This assessment highlights the positive impact of leech therapy in managing *Nidranasha* (Insomnia).

RESULTS

Findings show **leech therapy** may offer potential benefits in managing **Insomnia**.

1. Mechanism of Action

Leech saliva contains several bioactive components, such as hirudin, apyrase, and histamine, which exhibit vasodilatory, anti-inflammatory, and sedative properties. Hirudin primarily helps in preventing blood clot formation, while Apyrase enhances circulation by inhibiting platelet aggregation. These effects contribute to improved blood flow, reduced tension, and enhanced relaxation, ultimately facilitating better sleep quality.^[13]

2. Clinical Evidence

A 2015 pilot study found that individuals undergoing leech therapy for chronic pain reported substantial improvements in sleep quality. Additionally, other research has demonstrated its effectiveness in treating stress and anxiety-related conditions, which are frequently associated with insomnia.^[14]

3. Sedative Effects

The sedative and anesthetic-like properties of leech secretions may also contribute to its effectiveness in treating insomnia. Additionally, the psychological benefits of the therapy, such as stress reduction and relaxation, may further enhance its role in improving sleep.

DISCUSSION

Nidranasha* (Insomnia)** is categorized in ***Ayurveda as a condition resulting from an aggravated *Pitta* and *Vata Dosha*, which disrupt the natural sleep cycle. Additionally, age and sleep duration have a significant relationship in *Ayurveda*.

Sadhaka Pitta, a subtype of *Pitta Dosha*, is associated with the heart (*Hrudaya*) and governs emotions, spiritual well-being, and desires. Along with this, *Tridosha* imbalances can also negatively impact sleep patterns. Furthermore, *Kshaya* (weakness or depletion of bodily tissues) can contribute to sleep disturbances by preventing *Dhatus* (tissues) from performing their normal functions, leading to Insomnia.

Leech therapy presents a promising yet underexplored treatment for insomnia, with its primary benefits stemming from the bioactive compounds in leech saliva that provide sedative, anti-inflammatory, and circulatory enhancements. Preliminary research suggests that patients with chronic insomnia, anxiety, and chronic pain may experience notable improvements in sleep quality after undergoing leech therapy.

In *Ayurveda*, dietary recommendations to alleviate Insomnia include the consumption of:

- Mahish dugdh.^[15]
- Godhum, Dadhi, Ghrita.^[16]
- Grapes and Jaggery preparations.^[17]

However, several limitations remain. Large-scale clinical studies are still lacking, effects of leech therapy require further investigation. Additionally, while leech therapy is generally safe when performed by trained professionals, it does require specialized care, making it less accessible for widespread use.

Moreover, certain individuals may not be suitable candidates for leech therapy, including those with:

- Bleeding disorders
- Compromised immune systems
- A fear or discomfort with the procedure.

Despite these challenges, current evidence indicates that leech therapy could serve as an alternative or complementary treatment for insomnia, particularly for individuals who do not respond well to conventional medical therapies.

CONCLUSION

Sleep is a **fundamental necessity** of life, essential for **overall health, well-being, and longevity**. The **growing prevalence of insomnia** has significant effects on an individual's

health, behavior, and occupational performance. *Ayurveda* classifies **insomnia** as a **psychosomatic disorder** primarily aggravated **vitiating Pitta and Vatta Dosha.** *Ayurvedic* approaches can help in managing this condition effectively.

Jalaukavacharan (leech therapy) is an **ancient Ayurvedic bloodletting technique** that has demonstrated significant potential in managing **ischemic, inflammatory, and infectious diseases** by extracting **impure blood from deep-seated tissues.** The **bioactive compounds in leech saliva,** including **hirudin, apyrase, and histamine,** contribute to its **vasodilatory, anti-inflammatory, and sedative properties,** making it an effective **alternative therapy for insomnia.**^[18]

Leech therapy offers **multiple advantages,** such as **ease of application and minimal side effects,** making it a **valuable therapeutic approach** in *Ayurveda.* Despite its **ancient origins,** modern medicine has recognized the **efficacy of leech therapy** in treating various conditions. It continues to be regarded as a **remarkable and holistic healing method** that holds promise for the **management of insomnia.**

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