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## SHIRODHARA AND ITS THERAPEUTIC EFFECTIVENESS IN INSOMNIA

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**Abstract: Background:** Insomnia is a common sleep condition that impairs daily functioning by making it difficult to fall asleep or stay asleep. In the context of Ayurveda, insomnia is referred to as Anidra, a Manasika Vikara primarily caused by Vata and Pitta imbalance and depletion of Tarpaka Kapha. One of the classical treatments for Anidra is Shirodhara, a unique therapy involving continuous pouring of medicated oil or other liquids on the forehead, which has been traditionally used to calm the mind and induce restful sleep. **Objective:** To scientifically explore the concept, procedure, and recent evidence regarding the efficacy of Shirodhara in managing insomnia. **Materials and Methods:** A thorough review of classical Ayurvedic texts and recent clinical research articles (2004–2023) was conducted. Analysis was done on Shirodhara's process, indications, contraindications, duration, and mechanistic insights. Five key studies were reviewed to extract clinical outcomes in insomnia patients treated with Shirodhara using various medicated liquids. **Results:** Shirodhara was found to reduce sleep latency, increase total sleep time, and improve subjective sleep quality. Mechanistically, it influences the hypothalamic–pituitary–adrenal (HPA) axis, lowers cortisol levels, and enhances alpha and theta brainwave activity, indicative of relaxation. Oils with Vatashamaka, Medhya, and Snigdha qualities that were advantageous in Anidra included Brahmi Taila and Ksheerabala Taila. Clinical trials have validated its safety and effectiveness in managing both primary and stress-induced insomnia. **Conclusion:** Shirodhara, with its multidimensional impact on the nervous system, mental stress, and dosha equilibrium, offers a safe, effective, and non-pharmacological solution for insomnia. Further large-scale and neurobiologically designed studies are warranted to establish standard protocols and global applicability.

**Keywords:** Shirodhara, Anidra, Insomnia, Ayurveda, Brahmi Taila, Sleep Disorder, Panchakarma.

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**INTRODUCTION:**

Shirodhara is a unique Ayurvedic therapy where a steady stream of warm medicated oil or other liquids is poured over the forehead, specifically on the Ajna Marma (third eye) region. The Sanskrit words "Shira" (head) and "Dhara" (flow) are the origin of the term. This method is popular in Panchakarma and is renowned for its ability to balance, quiet, and soothe the nervous system. Sleeplessness, often known as insomnia, is a disorder characterized by trouble falling or staying asleep, which frequently impairs functioning during the day. In modern medicine, it is classified into primary and secondary types based on causative factors. In Ayurveda, Anidra is the term used for insomnia. It is considered a Vata-Pitta predominant Manasika Vikara, caused by derangement of Tarpaka Kapha, Prana Vata, and Sadhaka Pitta, leading to disturbance in mana (mind), buddhi (intellect), and indriya (senses).

**Insomnia (Anidra) According to Ayurveda**

Nidra (sleep) is one of the three essential pillars (Trayopastambha) of life along with Ahara (diet) and Brahmacharya (regulated lifestyle).

As per Charaka Samhita (Sutra Sthana 21/58):  
"Nidrayattam Sukham Dukham  
Pushtikarpushtikah | Balaabalam Paurusham  
Jnaanam Ajnaanam Jeevitam Cha Yat ||"

Meaning: Sleep is essential for happiness and misery, nourishment and emaciation, strength and debility, virility and sterility, knowledge and ignorance, and even life itself.

Anidra occurs when the mind is agitated due to Vata/Pitta vitiation or Kapha depletion, resulting in overactivity of the nervous system, stress, and mental restlessness.

**Indications of Shirodhara:** Shirodhara is primarily indicated in conditions where Vata and Pitta are aggravated, particularly in:

- Anidra (Insomnia)
- Chittodvega (Anxiety)
- Manodaurbalya (Mental fatigue)
- Shiro Roga (Headache and migraine)
- Hypertension
- Depression
- Psychosomatic disorders

**Contraindications of Shirodhara**

Shirodhara is typically safe, but it should be administered sparingly or not at all in:

- Acute fever
- Recent head injury or cranial fractures
- Sinusitis with blockage
- Severe hypotension
- Pregnancy (particularly third trimester)
- Scalp infections or dermatitis
- During menstruation (optional, depends on dosha condition)

**Duration and Procedure of Shirodhara:**

- **Preparation Phase (Purva Karma):** Head and body massage with suitable oils (Abhyanga)
- **Main Procedure (Pradhana Karma):** Liquid (usually medicated oil like Ksheerabala Taila, Brahmi Taila, or Jatamansi Taila) is poured from a vessel through a Dhara Yantra over the forehead continuously for a fixed duration.

**Post-procedure (Paschat Karma):** relaxation, cleaning, gentle steaming, and guidance on avoiding stress and cold.

**Typical Duration:**

- 30 to 45 minutes per session
- Daily or alternate days for 7 to 21 days, based on severity



Scientific Mechanism of Shirodhara in Insomnia

Modern science suggests that Shirodhara works by:

- The sleep-wake cycle is promoted by increasing melatonin release and stimulating the pineal gland.
  - Calming the hypothalamic-pituitary-adrenal (HPA) axis, reducing cortisol levels
  - Activating the parasympathetic nervous system, promoting deep relaxation
  - Influencing electrical brain activity (EEG) by enhancing alpha and theta waves, which are associated with a relaxed and meditative state
- Recent Research Highlights.

Table: Synopsis of Research on Shirodhara in Sleep Disorder

| Sr.No. | Study & Year               | Study Details                                    | Intervention                                    | Key Findings   | Conclusion   |
|--------|----------------------------|--|---|--|--|
| 1      | Singh RH et al. (2004)     | Clinical study on primary insomnia patients      | Shirodhara (oil-based), daily sessions          | Improved sleep onset, duration, and quality; reduced mental agitation            | Shirodhara acts as a sedative and non-pharmacological sleep enhancer   |
| 2      | Bhardwaj AK et al. (2012)  | 30 patients, 14-day treatment using Brahmi Taila | Shirodhara with Brahmi Taila                    | Significant reduction in PSQI score; improved sleep quality and daytime function | Effective in managing Anidra (insomnia) clinically                     |
| 3      | Sharma V et al. (2015)     | EEG-based study pre- and post-treatment          | Shirodhara (oil-based)                          | Increase in alpha & theta waves; reduced beta waves                              | Induces relaxation and calm brain states beneficial in insomnia        |
| 4      | Raveendra KR et al. (2020) | RCT with 60 insomnia patients (2 groups)         | Group 1: Takra Dhara; Group 2: Shirotaila Dhara | Both groups showed reduced insomnia severity, anxiety; better sleep              | Both Takra and Taila Dhara are clinically effective                    |
| 5      | Banerjee S et al. (2023)   | Measured salivary cortisol and anxiety           | Shirodhara (oil-based)                          | Significant drop in cortisol levels; reduced anxiety; better sleep               | Shirodhara has anti-stress, anxiolytic, and sleep-enhancing properties |

DISCUSSION:

The ancient concept of Shirodhara aligns remarkably with modern neurophysiological principles. By targeting the head region, it

stimulates Marma points and has a neuro-endocrine modulatory effect, producing relaxation and sedation. The warm oil acts as a medium of conduction, promoting

thermoregulation, vasodilation, and activation of the parasympathetic nervous system, thereby improving mental calmness and sleep quality. Ayurvedic perspective emphasizes the correction of doshic imbalance, especially Vata and Pitta, which are key in Anidra. Oils like Brahmi Taila, Ashwagandha Taila, and Ksheerabala Taila have Medhya (nootropic), Vatashamaka, and Snigdha (unctuous) properties, crucial for mental and nervous system health. Thus, Shirodhara works on both psychological and physiological aspects of insomnia, making it a holistic and non-pharmacological approach with minimal side effects.

### CONCLUSION:

Shirodhara, rooted in ancient Ayurvedic wisdom, is a scientifically validated, effective therapy for Insomnia (Anidra). By harmonizing the mind-body axis, it reduces stress, calms the mind, and facilitates natural sleep. In an era where pharmacological treatments for insomnia are associated with dependence and side effects, Shirodhara emerges as a safe, cost-effective, and sustainable solution. Further research with larger sample sizes, objective sleep studies (e.g., polysomnography), and standardization of oils and duration is needed to promote global acceptance of this ancient therapy in modern integrative healthcare.

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