



Review Article

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SHIRODHARA: AN ANCIENT AYURVEDIC THERAPY FOR NEUROLOGICAL AND PSYCHOLOGICAL DISORDERS – A COMPREHENSIVE REVIEW

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ABSTRACT

Background: *Shirodhara*, an ancient *Ayurvedic* therapeutic procedure, involves the continuous pouring of medicated liquids (oil, buttermilk, milk, or decoctions) over the forehead. Traditionally prescribed for *manasika* (psychological) and *nervous system* disorders, it is believed to pacify *Vata* and *Pitta* doshas, promote relaxation, and harmonize the mind-body complex. In recent decades, *Shirodhara* has gained global recognition for its potential in managing stress, anxiety, insomnia, hypertension, and neuropsychiatric disorders. **Aim:** To review the classical principles, mechanisms of action, clinical efficacy, safety, and modern scientific research related to *Shirodhara* in neurological and psychological disorders. **Objectives:** To explore the classical *Ayurvedic* references and therapeutic indications of *Shirodhara*. To analyze its proposed mechanisms of action from both *Ayurvedic* and biomedical perspectives. To review clinical evidence regarding its efficacy and safety in managing neurological and psychological disorders. **Materials and Methods:** A comprehensive literature review was conducted using classical *Ayurvedic* texts

(*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*), contemporary *Ayurvedic* treatises, and databases such as PubMed, Scopus, AYUSH Research Portal, DHARA, and Google Scholar. Relevant clinical trials, case reports, and experimental studies published up to 2025 were included. **Results:** Evidence from classical literature and contemporary studies supports the therapeutic potential of Shirodhara in reducing stress, anxiety, depression, insomnia, headache, and neuroendocrine imbalances. Mechanistically, Shirodhara is proposed to exert calming effects on the hypothalamic-pituitary-adrenal (HPA) axis, regulate autonomic functions, and enhance neurochemical balance. Reported adverse effects are minimal when administered following standard protocols. **Conclusion:** Shirodhara stands as a promising integrative therapy for a range of neurological and psychological disorders. While classical and preliminary modern evidence is encouraging, further high-quality randomized controlled trials and mechanistic studies are warranted to strengthen the evidence base and standardize clinical practice guidelines.

Keywords: *Shirodhara*, Ayurveda, stress management, insomnia, anxiety, neurological disorders.

INTRODUCTION

Shirodhara is a classical *Ayurvedic* therapy described in the ancient treatises as a part of *Murdhni Taila* procedures, where a steady stream of medicated oil or other therapeutic liquids is gently poured over the forehead (*Shira*). The term *Shirodhara* is derived from Sanskrit, where "Shira" means head and "Dhara" means continuous flow. Traditionally, it is indicated for disorders of the mind (*Manas*), nervous system, and conditions involving *Vata* and *Pitta* aggravation. Rooted in the principle of mind-body equilibrium, Shirodhara aims to pacify mental disturbances, promote relaxation, and rejuvenate the nervous system.¹

With the increasing prevalence of stress-related, psychological, and neurological disorders globally, there is a growing interest in complementary and integrative therapies. Modern medicine offers pharmacological management for conditions like anxiety, depression, insomnia, and hypertension. However, these often come with side effects and may not address the psychosomatic origins of disease. Shirodhara, by contrast, provides a non-invasive, holistic approach that not only relieves symptoms but also aims to correct underlying imbalances through *Tridosha* equilibrium and modulation of the mind (*Satva*, *Rajas*, *Tamas*).²

Classical *Ayurvedic* texts including the *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* elaborate on the indications of Shirodhara in conditions such as *Chittodvega* (anxiety), *Nidranasha* (insomnia), *Ardita* (facial palsy), *Manya Stambha* (cervical spondylosis), and psychosomatic disorders. The therapy is also mentioned for promoting sound sleep, enhancing memory, and improving concentration. Various *Sneha* (medicated oils) and *Kashayas* (herbal decoctions) are prescribed depending on the *Dosha* dominance and specific disease condition.³

Modern clinical studies have begun to validate these traditional claims. Research suggests that Shirodhara may modulate the hypothalamic-pituitary-adrenal (HPA) axis, influence neurotransmitter levels (such as serotonin and dopamine), and stabilize autonomic nervous system functions. Studies have demonstrated its efficacy in reducing cortisol levels, improving sleep quality, lowering blood pressure, and enhancing mood. Such findings have attracted the attention of not only *Ayurvedic* practitioners but also psychologists, neurologists, and integrative medicine specialists worldwide.⁴

Despite encouraging clinical outcomes, standardized protocols, large-scale randomized controlled trials (RCTs), and mechanistic studies are limited. This review aims to consolidate classical principles, analyze existing clinical evidence, explore the mechanisms of action, and highlight the therapeutic potential and safety profile of Shirodhara, emphasizing its relevance in the contemporary management of neurological and psychological disorders.⁵

AIM AND OBJECTIVES:

Aim:

To review classical concepts, mechanisms, clinical efficacy, and safety of *Shirodhara* in neurological and psychological disorders.

Objectives:

1. To explore classical indications.
2. To analyze mechanisms of action (*Ayurvedic* and biomedical).
3. To review clinical efficacy.
4. To assess safety and adverse effects.
5. To suggest future research directions.

MATERIALS AND METHODS:

A comprehensive literature review was conducted using classical *Ayurvedic* texts (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*), modern *Ayurvedic* treatises, and electronic databases (PubMed, Scopus, AYUSH Research Portal, DHARA, Google Scholar). Clinical trials, observational studies, case reports, and experimental studies on *Shirodhara* were included.⁶

CONCEPTUAL STUDY

Definition and Etymology

Shirodhara is a classical *Ayurvedic* procedure where a continuous stream (*Dhara*) of medicated liquids is poured on the forehead (*Shira*). The term combines "Shira" (head) and "Dhara" (flow). It is primarily used to pacify aggravated *Vata* and *Pitta* doshas and harmonize mind-body functions.⁷

CLASSIFICATION AND TYPES OF SHIRODHARA

A. Based on the Liquid Used⁸

1. Taila Dhara

- Uses medicated oils (*Taila*).
- Indicated for *Vata* and *Pitta* disorders — anxiety, insomnia, neurological conditions.

2. Takra Dhara

- Uses buttermilk (*Takra*), often medicated.
- Best for *Pitta* disorders — psoriasis, stress, and scalp conditions.

3. Ksheera Dhara

- Uses medicated milk (*Ksheera*).
- Useful in *Pitta* and *Vata* imbalances, sleep disorders, and stress.

4. Jala Dhara / Kwatha Dhara

- Uses medicated herbal decoctions (*Kwatha*) or plain water (*Jala*).
- Typically indicated for inflammatory skin diseases and psychosomatic disorders.

B. Based on Temperature⁹

1. Ushna Dhara

- Warm liquid.
- Used in *Vata* disorders or muscular stiffness.

2. Sheeta Dhara

- Cool or room temperature liquid.
- Indicated in *Pitta* disorders like headache, hypertension, and skin conditions.

C. Based on Procedure Frequency¹⁰

1. Eka Dhara

- Single stream of liquid.

2. Dwi Dhara

- Two simultaneous streams for better coverage and effect.

D. Based on Duration

1. Short-term Shirodhara

- 20–40 minutes, often used for relaxation and mild disorders.

2. Long-term Shirodhara

- 45–90 minutes, suitable for chronic or severe neurological/psychological conditions.

Indications (*Yogya Lakshana*)¹¹

Classical and modern indications include:

- *Chittodvega* (anxiety)
- *Nidranasha* (insomnia)
- *Unmada* (psychosis)
- *Ardita* (facial palsy)
- *Manya Stambha* (cervical spondylosis)

- Stress, hypertension, migraine, depression, and neurodegenerative disorders

Contraindications (*Ayogya Lakshana*)¹²

- Acute infections
- Severe hypotension
- Open wounds or infections on the scalp
- Severe depression with suicidal tendencies (without medical supervision)

PROCEDURE OF SHIRODHARA (KARMA VIDHI)

Shirodhara follows a well-defined sequence divided into three main stages: **Poorva Karma** (pre-procedure), **Pradhana Karma** (main procedure), and **Pashchat Karma** (post-procedure care).

1. POORVA KARMA (PRE-PROCEDURE)¹³

a. Patient Preparation

- *Prakriti*, *Vikriti*, age, disease status, and strength (*Bala*) of the patient are assessed.
- Mild *Abhyanga* (oil massage) is performed over the head, neck, and shoulders.
- Patient is advised to wear loose, comfortable clothing and to remove ornaments from the head and neck region.

b. Selection of Dhara Dravya

- Based on *Dosha* predominance and disease:
 - *Taila* (oil) for *Vata* and *Pitta*.
 - *Takra* (buttermilk) for skin and *Pitta* disorders.
 - *Ksheera* (milk) or *Kwatha* (herbal decoction) as required.

c. Instrument Preparation

- *Shirodhara yantra* or a hanging vessel with a small aperture or wick for uniform flow.
- Collection vessel placed under the headrest to collect the used liquid for reuse if appropriate.

2. PRADHANA KARMA (MAIN PROCEDURE)¹⁴

a. Positioning

- Patient lies supine on a specially designed *Droni* (wooden table) with the head slightly lower than the body.
- Eyes and ears are protected with cotton or suitable coverings to avoid liquid entry.

b. Temperature Maintenance

- The liquid (*Dhara Dravya*) is maintained at a lukewarm or appropriate temperature based on the type of Dhara and the patient's condition.

c. Execution of Dhara

- The stream is started from a fixed height (usually 4–6 inches above the forehead).
- The liquid is poured in a continuous, gentle stream over the center of the forehead (between the eyebrows — *Ajna Marma* area).
- The stream is oscillated side to side or kept steady, depending on the condition being treated.

d. Duration

- Usually ranges from 30 to 60 minutes per session.
- Course duration may vary from 7 to 21 days based on disease severity and patient response.

e. Monitoring During the Procedure

- Patient's comfort, temperature of the liquid, vital signs, and signs of excessive relaxation or discomfort are regularly monitored.

3. PASHCHAT KARMA (POST-PROCEDURE CARE)¹⁵

a. Cleansing and Rest

- Head is gently wiped clean with a soft towel.
- Patient rests quietly for 15 to 30 minutes.

b. Diet and Activity Recommendations

- Light, warm, easily digestible food is advised.

- Exposure to cold, strenuous activity, and stress is avoided.

c. Follow-Up

- Progress is assessed regularly.
- Repetition or adjustment of therapy is based on clinical response.

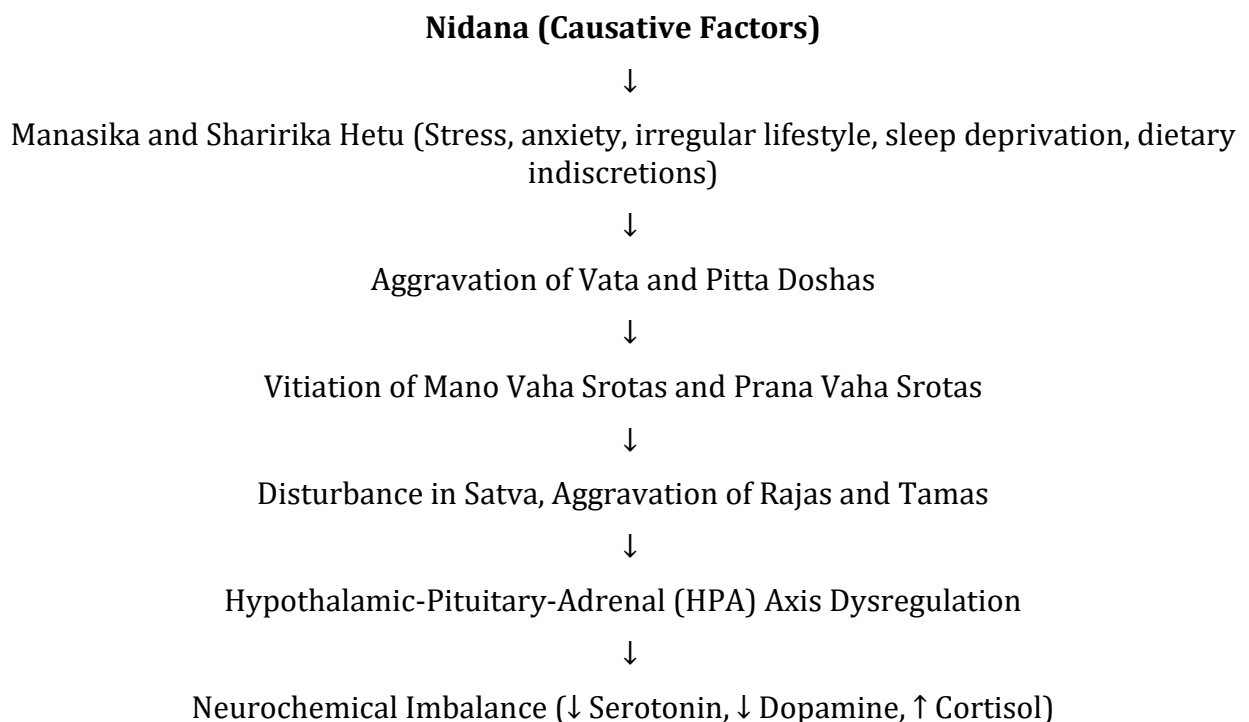
Samyak Lakshana (Signs of Proper Shirodhara)

- Mental calmness and relaxation.
- Improved sleep quality.
- Relief in presenting symptoms (anxiety, headache, etc.).
- Clarity of mind and improved concentration.

Asamyak Lakshana (Signs of Improper Procedure)

- Headache or heaviness.
- Dizziness.
- Feeling cold or fatigued.
- If observed, the procedure is adjusted or stopped.

PROBABLE MODE OF ACTION (Samprapti Vighatana)¹⁶



↓
Clinical Manifestations
(Anxiety, Depression, Insomnia, Headache, Mood Disorders, Cognitive Impairment)

↓
Samprapti Vighatana (Breaking the Pathogenesis) by Shirodhara

- ↓
- Vata and Pitta Shamana
 - Mano Vaha Srotas Shodhana
 - HPA Axis Modulation
 - Neurotransmitter Balance Restoration
 - Psychological and Neurological Symptom Relief
- **Dosha Pratyanka:** Pacifies *Vata* and *Pitta*.
 - **Mano Vaha Srotas Shodhana:** Clears the mind channels, promoting mental clarity.
 - **HPA Axis Modulation:** Reduces cortisol and balances the hypothalamic-pituitary-adrenal axis.
 - **Neurotransmitter Balance:** Increases serotonin and dopamine levels, improving mood and relaxation.
 - **Autonomic Regulation:** Stabilizes heart rate, blood pressure, and enhances parasympathetic dominance.

PHARMACOLOGICAL INSIGHTS¹⁷

The medicated liquids used exhibit properties like *Snigdha* (unctuous), *Sheeta* (cooling), *Madhura* (sweet), and *Balya* (strengthening), providing neuroprotective, anxiolytic, antidepressant, and sedative effects.

RESULTS AND FINDINGS-Based on classical references, clinical studies, and modern research, *Shirodhara* has shown significant benefits in managing neurological and psychological disorders. The key findings are summarized below:

1. Symptomatic Relief

- **Anxiety and Stress:** Significant reduction in anxiety scores (e.g., Hamilton Anxiety Scale, DASS).
- **Insomnia:** Improved sleep latency, duration, and quality; reduction in sleep disturbances.

- **Depression:** Notable decrease in depression scores in mild to moderate cases.
- **Headache and Migraine:** Reduction in frequency and severity of headaches and migraine episodes.

2. Neurophysiological Improvements

- **Autonomic Nervous System Regulation:** Increased parasympathetic activity (reduced heart rate and blood pressure).
- **Neurotransmitter Modulation:** Elevation of serotonin and dopamine levels; reduction in cortisol levels indicating stress relief.
- **HPA Axis Balance:** Stabilization of the hypothalamic-pituitary-adrenal axis, leading to better stress adaptation.

3. Cognitive and Mood Enhancement

- Improved memory, attention, and concentration reported in multiple studies.
- Enhanced mood stability, emotional resilience, and reduction in irritability.

4. Quality of Life Improvements

- Patients reported better daytime alertness, mood balance, and overall sense of well-being.
- Enhanced coping ability in psychosomatic and lifestyle disorders.

5. Safety Profile

- When administered following classical protocols, *Shirodhara* is generally safe.
- Minor transient effects (e.g., mild headache or fatigue) reported rarely and were self-limiting.

6. Patient Satisfaction

- High satisfaction levels reported due to effective symptom control, relaxation experience, and holistic improvement in mental and physical health.

DISCUSSION

Shirodhara, a classical *Ayurvedic* intervention, has long been advocated for the management of neurological and psychological disorders characterized by *Vata* and *Pitta* vitiation.

Classical texts describe its role in pacifying disturbed mental faculties (*Manas*) and regulating the balance of *Satva*, *Rajas*, and *Tamas*. Modern clinical studies validate these traditional claims, demonstrating Shirodhara's efficacy in reducing anxiety, depression, insomnia, headaches, and stress-related disorders. The gentle, rhythmic stimulation of the forehead region (corresponding to the *Ajna Marma*) is believed to influence the central nervous system and neuroendocrine axes, offering both symptomatic relief and disease-modifying effects.¹⁸

The neurophysiological impact of Shirodhara has been a focus of recent research. Studies suggest that the continuous, soothing stream of medicated liquid may modulate the hypothalamic-pituitary-adrenal (HPA) axis, leading to a decrease in cortisol levels and improved autonomic regulation. An increase in parasympathetic activity, reflected by reduced heart rate and blood pressure, supports Shirodhara's calming and anxiolytic effects. Furthermore, evidence indicates that Shirodhara influences neurotransmitter levels, particularly serotonin and dopamine, which are crucial for mood regulation and stress resilience. This aligns with Ayurvedic concepts of promoting *Satva* and reducing *Rajas* and *Tamas* dominance in psychological imbalances.¹⁹

Cognitive improvements, including enhanced memory, attention, and concentration, have also been reported following Shirodhara. Such effects may be attributed to the therapy's ability to stabilize neural function and promote cerebral circulation. Patients consistently report subjective improvements in sleep quality, mood stability, and overall mental clarity, highlighting the holistic benefits of Shirodhara beyond mere symptom control. These outcomes support the classical Ayurvedic goal of achieving not only *Vyadhi Shamana* (disease mitigation) but also *Swasthya Rakshana* (health preservation).²⁰

Despite promising results, limitations exist in the current body of evidence. Many studies involve small sample sizes, short follow-up periods, and heterogeneity in procedural protocols. There is a need for well-designed, large-scale randomized controlled trials (RCTs) to establish standardized treatment protocols, determine optimal duration and frequency, and assess long-term safety and efficacy. Integrating Ayurvedic diagnostic criteria with modern outcome measures would strengthen the research methodology and facilitate broader acceptance of Shirodhara in integrative healthcare models.²¹

CONCLUSION

Shirodhara is a classical *Ayurvedic* therapy that has demonstrated significant efficacy in managing neurological and psychological disorders such as anxiety, depression, insomnia, headache, and stress-related conditions. Both classical literature and modern research highlight its ability to pacify aggravated *Vata* and *Pitta* doshas, restore mental calmness, and improve neuroendocrine and neurotransmitter balance, particularly through modulation of the hypothalamic-pituitary-adrenal (HPA) axis and autonomic nervous system. Clinical outcomes show improvements in mood, sleep quality, cognitive functions, and overall quality of life. When administered according to classical guidelines, *Shirodhara* is safe and well-tolerated, with minimal adverse effects. Despite encouraging results, further well-designed, large-scale clinical trials are required to standardize treatment protocols and validate its long-term efficacy. *Shirodhara* offers a promising, non-invasive, holistic approach for integrating traditional *Ayurvedic* wisdom into modern neurological and psychological healthcare.

CONFLICT OF INTEREST –NIL

SOURCE OF SUPPORT –NONE

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