



## Review Article

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### EVIDENCE BASED PSYCHOLOGICAL PHYSIOGNOMY OF POURING MEDICATED LIQUID OVERHEAD (SHIRO-DHARA)

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#### ABSTRACT

Shiro-dhara is a non-invasive Ayurvedic technique that involves drizzling therapeutic oil or other liquids onto the forehead, gently and gradually to induce a calm state of consciousness and a dynamic psycho-somatic equilibrium. It is a time-honoured method of treating the body's neuro-immuno-psycho-physiological components. Ayurveda is a personalized, all-encompassing science of life that combines the words Ayu and Veda. Sharira, Indriya, Satva, and Aatma are all incorporated within Ayu. The most important thing in this universe is supposed to be Satva, or Mana. The high standard of living in today's world has a significant negative impact on mental health, which leads to a wide range of mental disorders like depression, anxiety, stress, and insomnia. Shiro-dhara has been proven to be helpful when used in conjunction with other therapy modalities for a number of ailments, encompassing shir shoola, primary hypertension, acute ischemic stroke, sleeplessness, psoriasis, ADHD in youngsters, and premature ejaculation. With the use of convincing findings, this review article aims to explain Shiro-dhara physiology in treatise of mental illnesses.

**Keywords:** Ayurveda, Shiro-dhara, Satva, Depression, Anxiety, Stress.

#### INTRODUCTION

Despite being a "Life Science", Ayurveda lacks a scientific perspective. Even though Ayurveda has been the subject of extensive research over the past few decades, there is still a long way to go before everyone recognizes it as a "Life Science". For every Ayurvedic proverb, modern science aspires to convincing evidence. Regular study has been encouraged to determine the potential effects of Shiro-dhara on behavioral issues, how this treatment promotes maniska bhava equilibrium, etc. Numerous studies are now being conducted to address these types of questions.

The four forms of murdha tail-abhyanga, parishek, pichu, and shirobasti described by Acharya Vagbhata<sup>1</sup> progressively become more advantageous than the others. Parishechan or Shiro-dhara is an Ayurvedic therapeutic technique in which herbal oil, medicinal milk, or a decoction is continuously poured over the forehead from a particular height in a particular area.<sup>2</sup> It is a special, non-invasive Ayurvedic treatment that falls within the daiva vipashraya chikitsa genre. Insomnia, anxiety, stress, headaches,<sup>3</sup> and hypertension have all been successfully treated using this non-invasive method, sometimes even better. The effectiveness of this therapy in treating mental health problems is outstanding. It is also necessary for the social, and economic, cultural, and individual development as well. It is more than just a lack of mental illness.

Depending on the patient's state, this technique can be a purva karma (preoperative procedure) or pradhan karma (main procedure). As the bird can-not transgress its own shadow even though it is flying throughout the day, so also no endogenous disease caused by the disturbance of equilibrium.<sup>4</sup> Hence, the particular kind of medicinal liquid implemented for this purpose hinges on the type of dosha engagement.

The databases PubMed, Medline, Google Scholar, and Dhara were searched for studies with the terms "Shiro-Dhara," "Ayurveda," etc. Only clinical studies that were previously published in peer-reviewed journals were included in the review. We took into account only works, that were written in English. Additional languages were accepted, provided there was an English abstract with the information required for extraction. The chosen articles were related to the topic.

#### Shiro-dhara

Ayurveda includes a variety of tactics. Shiro-dhara is a method for preserving the balance of the maniska bhava that is employed in neuro-immuno-psycho-physiological diseases. A medicinal liquid is poured over the head region at a distance of four fingers (for thin muscle tissue) and all over the body at a distance of ten fingers (for heavy muscle tissue) in order to customise the force and velocity ideally suited for boosting concentration.

Indication and contraindication of Shiro-dhara

<b>Indications</b>	1. Shiroroga, insomnia, Chittaudvega, depression, Unmad, skin disorders, head tremors, and Mental disorders like Apasmara are other examples. 2. Outlined in cases of Alzheimer, migraine, facial paralysis, paralysis, stiffness in the jaw, ocular pain, anxiety, neurosis, insomnia, and neuropsychological and psychosomatic conditions.
<b>Contraindications</b>	1. Kaphaja vikaras 2. Who just performed sudhikarma; those who are struggling with ajeerna (indigestion); and those who recently went through Panchakarma (purification).

**Duration of Process and Therapy**

Person with barrenness and Pittayukta Vata the period - 2½ Prahara / 2 Prahara and in snigdha Kaphayukta Vata, 1 prahara, or up to commencement of egesta.<sup>5</sup> Nowadays, it is to be done for 45-60 minutes depending on the disease of the patient.<sup>6</sup> Depending on disease and the physical condition of the patient, the therapy time period is for 7-14 days preferably, during morning hours.

Through Bala observation, continuity of therapy varies as<sup>7</sup>

Bala	Continuance
Uttama	Daily or on alternate days
Madhyama	Interval of two days
Heena	Interval of four days

For better proficiency, approach of Shiro-dhara may be partite into subsequent sections<sup>8</sup>-

- A. Purva Karma
- B. Pradhana Karma
- C. Pashchat Karma

**Purva Karma/Pre-operative Procedure**

To begin with, it must be determined if the patient would be an appropriate candidate for Shiro-dhara. Purva Karma is related to the preparation of the patient.

**Prerequisite equipment**

- Droni (Dhara table)
- Dhara Patra
- Dharavarti- an unruly string of cotton wick
- Desirable oil - 1.5 litres.
- Other requirements like cloth piece, cotton, pot, Rasnadi churna etc.

**Condition of the patient**

- Hair on the scalp should be removed if the patient permits.
- Stool and urine should be eliminated by the patient.
- Patient's basic vitals like pulse, temperature and blood pressure should be recorded.

**Equipment and Patient Position:** Shiro-dhara should be in a supine position with his Dhara Patra four inches above his head in order to maintain proper posture. Cotton should be used to cover the ears and eyes to prevent liquid from getting in the eyes.

**Pradhana Karma/Operative Procedure**

The liquid of choice should be kept in the vessel and poured continually and slowly onto the patient's forehead. Maintaining the flow throughout the entire forehead requires a gentle vibration. When the liquid in the vessel is emptied, this liquid collects in the vessel that is maintained below the table, which is subsequently replaced by the lower vessel.

**Pashchata Karma/Post-Operative Procedures**

After completion of process-

- A clean piece of cloth will need to be deployed to clean the oil from the head.
- Rasnadi choorna application over-head, eyes should be washed with cold water.
- Remaining oil of the Dhara should be massaged on the body, then should take a bath with hot water.

**Aahar**

- He should take light diet and water - siddha with Vataghana aushadhi.
- Pathya for up to 7 days and use of warm water boiled with Dhanyajiraka, i.e., ginger and cumin seeds for drinking means.

**Vihar**

Avoidance of actions that may give any strain on the body and mind as-

- Physical exertions, and mental emotions as anger, grief etc.
- Sun, drippings, breeze, fumes, or particulate matter, or frigid temperatures.
- Riding a high-speed vehicle, walking, speaking too long or too loudly.
- Sleeping during the daytime and standing continuously for long period.

**Parihara kala:** Period during which pathya-apathya followed should be equal to time for which this therapy is taken.

**Aushadha (Medicament)**

Requirement of aushadha- 1-2 kg.  
Temperature of aushadha - 40 °C

Type of Sneha according to involvement of Dosha

Involved Dosha <sup>9</sup>	Type of Sneha
Vata	Tila Taila, Vataghna liquid
Pitta	Ghrita, cold water
Kapha	Tila Taila, not too hot, not too cold water
Rakta	Ghrita with cold water
Vata, Pitta, Rakta	Ghrita and Taila are proportionally constituted.
Vata, Kapha, Rakta	Half quantity Ghrita + one part Tila Taila

**Physiology of Shiro-dhara Application**

The procedure's outcome rather than its action was heavily emphasised in Ayurveda. For better understanding of its action many theories have been explained.

- Drug absorption (transcutaneous penetration) via – Arterial supply, Venous drainage<sup>10</sup>, Nerve supply.
- Pressure, Vibration and Temperature effect – Continuous pressure and vibration through Dhara transmitted to CSF. Modern study explains impact of pressure on conduction via tactile and thermal receptors. Vibration with temperature

activates basal and thalamic portion secreting key neurotransmitters as serotonin and catecholamines etc.

- Kinetic energy and Momentum<sup>11</sup> – In Shiro-dhara medicated liquid falls from certain height which is stored in form of potential energy and then convert into kinetic energy. So, when anything falls from a certain height due to change in form of energy and generation of momentum, it may cause change in voltage and stimulate nerve impulse generation.

In congruence with Ayurveda enactment of Shiro-dhara may include following maneuver responsible for ascendancy of mental disorders,

- Using dosha specified siddha oil, vata can be pacified which is main vindication for mental ailments<sup>12</sup>.
- Acharya Dalhana explains use of snehana consolidate blood circulation to skin improving metabolism, reduces peripheral resistance help in relieving stress.<sup>13</sup>
- Marm (Vital points) i.e., Sthapni, shankha, adhipati, utkshepa got stimulation thus accentuate circulation and immune system.
- Chakra i.e., Agyna (optic thalami) and Sahasrara (cerebrum) got incited, prompting hypothalamus, buoy up sleep rhythm, behavioral pattern and autonomic balance.
- Invigorate agyna chakra which is responsible for intellect, knowledge etc. and other brain structures eminent for anger, pain, grief, memory along with other intellectual functions.
- Liquid on centre of forehead i.e. third eye/ pineal gland results in psychosomatic harmony viz. stillness of mind resulting in adaptive response to basal stress.<sup>14</sup>
- It may have alpha adrenergic blocking effect, causing stoppage of adrenaline and nor-adrenaline actions.
- Through enforcing hypothalamus gives proliferation to neurohumoral endocrine axis of body.

#### Evidence of Effectiveness of Shiro-dhara in Psychological Ailments

- It was observed in a study that the drug and Shirodhara were both effective in improving the reaction time of ADHD affected children, but the drug combined with Shirodhara was superior to the drug used alone.<sup>15</sup>
- A study shows statistically significant result in almost all the spheres of memory and attention using Shiro-dhara as a therapy.<sup>16</sup>
- A clinical trial showed Shiro-dhara along with internal medication improves balance in patient with progressive degenerative cerebellar ataxia.<sup>17</sup>
- In a trial study on menopausal women, Shirodhara gave promising relief of the disturbances of Manasa bhavas and psychic symptoms of menopause.<sup>18</sup>
- In a human trial study, Shiro-dhara along with psychological counselling and Rasayana, yoga with regards to patient satisfaction, performance anxiety has shown more causatum than single-single therapy.<sup>19</sup>
- In a RCT study Shirodhara manifest reduced daytime sleepiness associated with generalised anxiety disorder with co morbid generalized social phobia.<sup>20</sup>
- Shirodhara with Brahmi oil is very effective in moderate to severe insomnia.<sup>21</sup>
- In a separate study, it was found that patients with stress-triggered perpetual insomnia who received Shiro-dhara with Dashamoola kwatha (half an hour twice daily for 21 days) experienced highly significant improvements in their sleeplessness (61.29%), distress (63.64%), sleep time, sleep quality, and freshness upon awakening (100% each).

#### DISCUSSION

Mental health is an integral component of health and well-being that underpins our individual and collaborative capacities to reach judgments, establish connections, and influence the world that's where we live. Lifestyle modalities, environmental factors, genetic factors etc affect mental health causing mental disorders. Omitting western medicine, ayurveda has annotated many therapies for treatise of such ailments. Panchakarma is a branch of study in traditional ayurvedic medicine which include myriad therapies for such purpose. Shiro-dhara, a non-invasive fix has tremendous vigour in mental debility. Owing to its Vasodilation effects, increment of O<sub>2</sub> to brain cells gives antioxidant property. Improve neuronal humoral axis of human body. Promote calmness effect for brain cells. With all these and many more this daiva pashrayav chikitsa culminate mental dilemma, improving quality of life.

#### CONCLUSION

A core human right is having access to mental health. Mental illnesses have a detrimental effect on a person's sexual compatibility in addition to his or her physical health. In the modern medical trade, medications administered for mental disabilities include a variety of adverse effects that affect the one's quality of life, notably drowsiness and exhaustion, nausea, weight gain, and sexual dysfunction. If implemented appropriately, ayurvedic therapies don't cause unwanted reverberations. Consequently, these therapies are being employed to not only treat maladies but also to maintain a balanced way of life. Promotion and preventive efforts should include the education, work, justice, transportation, environment, housing, and welfare sectors as altering the determinants of mental health frequently requires action beyond the health sector. The health sector may make a significant contribution by incorporating promotion and prevention initiatives into health services and by promoting, starting, and, when necessary, enabling multisectoral collaboration and coordination.

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