

## MODE OF ACTION OF SHIRODHARA -A CRITICAL REVIEW

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### ABSTRACT

Shirodhara is an important therapeutic measure in Ayurvedic system of medicine as it is very helpful in calming stressful mind, relaxes the entire body. Shirodhara induces a peaceful state of awareness that results in a dynamic psycho-somatic balance. Shirodhara is a purifying and rejuvenating therapy designed to eliminate toxins and mental exhaustion, as well as to relieve stress and any ill effects of the central nervous system. Shirodhara is a unique form of ancient therapy of pouring oil on the forehead from a specific height and for a specific period continuously and rhythmically, allowing the oil to run over the scalp and onto the hair. This is a subtype of Murdhni taila which means keeping the medicated oil on the head region. The types of Murdhni taila other than Shirodhara are Shiro Abhyanga, shiro Pichu and Shiro Basti. Shirodhara is an important healing technique of Ayurveda that has neuro-immuno-physio-psychological effects on the human body. Shirodhara purifies the mind, alleviates anxiety, reduces headache and expands awareness. In this article we are trying to analyze the various mechanism of action of this Panchakarma technique and also to search the scientific explanation for its therapeutic utility.

**KEYWORDS:** Shirodhara, Murdhni taila, Panchakarma.

### INTRODUCTION

Shirodhara is a traditional Ayurvedic method of healing, that has been in use since ancient times to bring the mind, body and soul to a harmonious level. Shirodhara has got worldwide popularity because of its simple administration and effectiveness in variety of life style disorders. Shirodhara is a form of independent Snehana procedure. It is also a safe, effective and a stand-alone therapy. The term "Shirodhara" comes from two Sanskrit words, where 'Shiro' means head and dhara' implies to pouring or sprinkling something', together it infers to dripping or pouring of lukewarm taila, takra, ksheera or kwath on the forehead from a specific height, for a specific time period, in a continuous stream and allowing the oil to run over the scalp and down into the hair. Shirasheka, Shirodhara, Pariseka, Sechana

are synonyms of Shirodhara<sup>(1)</sup>. In Shirodhara, The pressure of the oil onto the forehead creates a vibration and penetrates the nervous system, thus enhances the function of the central nervous system. The gentle pressure and soothing warmth of the oil allows the body, mind and nervous system to experience a deep state of rest, just similar to meditation. Vagbhata has described it under the Seka, type of Murdhni Taila.<sup>(1)</sup> Acharya Charaka & Sushruta also stated its use in various types of shiroroga like pittaja-shiroroga, shankhakaroga etc. Shirodhara procedure induces a relaxed state of awareness that results in a dynamic psycho-somatic balance useful in various conditions which includes psychological, neurological, metabolic and autoimmune diseases. Tailadhara is one of the varieties of

Shirodhara which is considered specifically useful in various diseases where vatadosha plays a predominant role. Ksheerabala taila is the most commonly used formulation particularly indicated in Vatavyadhi. (2)''  
Shirodhara acts as Agni dipaka (Increases appetite), Dhatu poshaka (Nourishes body) and Jnanendriya tarpaka (nourishes sense organs). It induces sleep and improves speech, stabilizes mind, increases the physical strength, increases sweetness of voice and softness of skin. It is helpful in Timira etc Netra Rogas. Also indicated in arumshika (eruption of scalp) shirahsthoda (headache) shiro-paka (burning sensation) and khalitya etc.). (3)

## REVIEW OF SHIRODHARA

### Indications: (4)

Arumshika, Khalitya, Palitya, Arhavabhedaka, Vataja Shirashoola, Pittaja Shirashoola, Raktaja Shiroroga, Shankhaka, Apasmara, Unmada, Timira, Ardita, Manasika Vikara, Anidra, Pakshaghta etc diseases and also for rejuvenation of the body, relaxation of mind and to provide a sound sleep.

### Procedure of Shirodhara: (5)

The process of shirodhara is divided into 3 important steps:-

Step 1 — Purva karma (Pre operative procedures)

Step 2 — Pradhana karma (Main procedure)

Step 3 - Pachat Karma (Post operative procedure)

### Purva Karma

Before starting Shirodhara, Physician should explain the whole procedure to the patient and take the consent for the same. The patient is made to lie down on Shirodhara table with palms facing up. A rolled towel or a small pillow should be placed under the head so that head rests in a comfortable position. Precaution should be taken to avoid hyper flexion or hyper extension of the neck. Massage is done over head with prescribed medicated oils. The medicated oil should be warmed and temperature should be tested with a digital thermometer. It is then poured

into the shirodhara patra (Vessel) that is positioned over the patient's head and adjusted to the appropriate height. Classically, dhara patra is made up of copper metal. It is a wide mouthed and curved vessel pot having a hole in central bottom. Through the hole a cloth thread is pushed to allow the oil to flow continuously in the form of a stream. The pot is hanged above the forehead of the patient with the help of chain and wick hanging from the vessel is about 4 Angul (around 8cm) above the forehead.

### Pradhan Karma

After proper snehan (massage) of face and head, patient should be asked to lie down in supine position on the shirodhara table and keep the head on the extra projection of the table. Both the eyes of the patient are covered with cotton gauze piece to prevent oil from dripping into them. The fluid i.e. taila, kwatha, ksheera, or takra etc. is then poured in dhara patra and the fluid is allowed to flow in a continuous stream through the wick of cotton on to the upper part of the forehead. A mild oscillation should be given to maintain the flow all over the forehead. The fluid is collected and recirculated and fluid temperature should be maintained through out the procedure. This process continues for 50 to 55 minutes in Vataja Vikara, 40 to 45 minutes in Pittaja Vikara and 30 to 35 Minutes in Kaphaja Vikara (6). It should be done for 7days, 11 days, 14 days or 21 days depending upon the nature of the disease.

### Paschat Karma

After completion of pradhan karma, the residual oil should be wiped from the hair and head of the patient should be cleaned thoroughly. Patient should be asked to take rest for few minutes on the shirodhara table. Rasnadi Churnam should be applied over the anterior fontanel region of the head. Advise the patient to take hot water bath after half an hour and to avoid direct exposure of sunlight immediately. For drinking purpose warm water prepared with Dhanyajiraka, ginger

and cumin seeds may be used. For washing and ablating purposes only warm water should be used.

**Dhara Dosha :** If Dhara is performed from more height, very fast or very slow, then it may produce Daaha (burning sensation), Murchha (Fainting), Shoola (pain), Chhardi (vomiting), Raktapitta (Bleeding Disorders) and Jvara (fever).

**Treatment of Dhara Dosha :** Gandusha, Nasya, Kashayapana with Sunthi, Light diet at evening, Yusha (green gram soup) with black pepper and On the third day Basti should be given in which Saindhava is mixed may be adopted.<sup>(7)</sup>

## DISCUSSION

### Probable Mode of Action of Shirodhara

**1. Tranquilizing effect:** During Shirodhara procedure, particular pressure and vibration is created over the forehead. The vibration is amplified by the hollow sinus present in the frontal bone. The vibration is then transmitted inwards through the fluid medium of cerebrospinal fluid (CSF). This vibration along with little temperature may activate the functions of thalamus and the basal fore brain, which then brings the amount of serotonin and catecholamine to the normal stage inducing the sleep.<sup>[8]</sup>

The continuous pouring of oil in relaxed and comfortable position has an effect which can be compared to the cradling of Mother to a child. This function act as a sedative and soothing effect for the Brain and produces Sleep. Medicated oil poured on fore-head may be absorbed, producing Tranquilizing effect by reaching the Brain cortex. The chemical constituent of medicated oil may act as a Neuro transmitter as deficiency of certain Neurotransmitter can be checked hypothetically if oil percolate in to Brain cortex as explained by Johnson while treating the patient of Angina by Nitroglycerine.<sup>(9)</sup>

**2. Effect on Autonomic Nervous System:** Shirodhara may also have Alpha Adrenergic blocking effect and can thus block certain actions of adrenaline and nor adrenaline.

Shirodhara may also act on the adrenergic neuron probably produce their effects by modifying the synthesis storage and uptake mechanisms of noradrenaline.

**3. Effect on Endocrine system:** The effect of Shirodhara on hormone secretion can also be postulated. Considering the effect on hypothalamus as hypothalamus is the main controller of endocrine secretions. The hypothalamic Neurons which secrete the regulatory hormones are themselves under the control of specialized monoaminergic, neurotransmitter neurons which arise in the mid brain. These latter release Dopamine, Nor adrenaline and Serotonin. In turn, these mid brain nuclei are under the control of visceral brain and are responsive to stress and emotional disturbances.

**4. Regulation of emotional and behavioural patterns:** Together with the limbic system with the hypothalamus regulates the feeling of rage, aggression, pain and pleasure and behavioural patterns of sexual arousal. Ultimately it can be postulated that Shirodhara may be having some effect on hypothalamus resulting in decrease of most of the psychic and somatic disorders.

### Effect on Marmas:-

Some Marma (Vital spot) are located in forehead and head region as mentioned in Ayurveda classics. Mainly Sthapni, Utshepa, Avarta, Shankha And Apanga Marma are situated in this region.<sup>[10]</sup> Most of the Marma of head region are having Agni and Vayu as Pradhana Mahabhoota.<sup>[11]</sup>

**Sthapani Marma:** According to Acharya Bhela Bhrumadhya (Between both eyebrows) is the site of Chitta (Mana). It is also place of Sthapni Marma.<sup>[12]</sup> The site of Sthapni Marma and the site of pituitary and pineal gland exist at the same level. The function of pituitary gland is controlled by hormones. It is the master of the gland. It has the capacity to maintain all the endocrine system of human body.<sup>[13]</sup> Mental stress and irritability were the causative factors were endocrine system

gets imbalanced of its normal function.<sup>[14]</sup> Due to the stimulation of Sthapni Marma and indirect stimulation of pituitary gland brings the changes in psycho- somatic level. Hence Shirodhara therapy helps in reliving the mental stress by regulating the normal function of this gland.

**Shankha Marma:** It corresponds to temporal bone of the skull underneath which lies the temporal lobe of cortex arterial branches and at the base is also some of the important structures of the brain.<sup>[15]</sup>

**Utkshepa Marma:** Intracranial cavity and venous sinuses the wall of which is made of coverings of the brain lie in this region.<sup>[15]</sup>

**Adhipati Marma:** This location is well known as the anterior fontanelle on the vertical groove of the frontal bone. Underneath this point, there is saggital sinus of the brain and also the sulcus between two hemispheres of the cortex.<sup>[15]</sup>

Shirodhara stimulates these marmas and improves the circulation, as the fluid used for shirodhara is always warm which causes vasodilatation of all the channels and thereby improving their circulation which in turn improves blood circulation of the brain. This improves the higher intellectual functions also. So an improvement in psychic symptoms is achieved. Improvement in circulation to hypothalamus also improves the function of Autonomic Nervous System as its stimulation during stress causes many physiological disturbances.

**Effect on chakras:** Shiras (head) is the seat of both Ajnyachakra (6th chakra) & Sahastrara (7th Chakra).Ajnya (6th chakra) is located at the level of external point of the eye brow centre, corresponds to Penial gland and Medulla oblongata in brain and it is considered as the third eye because of its position. This point is the trigger point of concentration. Hence it is considered as centre of consciousness. From this centre the bodily systems and states of awareness are controlled. Hence Shirodhara treatment over Ajnya chakra (Penial gland and Medulla oblongata in brain) would stimulates

Sahastrara chakra (the thousand petal lotus, the upper cerebral centre) which controls the mechanism of all chakras to generate preferred results.<sup>[16]</sup>

### CONCLUSION

Shirodhara is an important therapeutic procedure in Ayurveda system of medicine, which has got worldwide popularity because of its simple administration and effectiveness in several disorders and life style diseases. It is a purifying and rejuvenating therapy which stimulates nervous system, eliminates toxins and mental exhaustion as well as relives stress and any ill effects on the central nervous system. On the basis of above description, it is clear that Shirodhara has both the therapeutic effect of medicament and procedural effect. Shirodhara can be used for the treatment of scalp, hair problems, vision related problems and also psychological disorders.

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