

## PROBABLE MODE OF ACTION OF SHIRODHARA - AN OVERVIEW

Dr. Sony Singh\*<sup>1</sup> Dr. Rachna Nigam<sup>2</sup> and Dr. Ravi Kumar Shukla<sup>3</sup><sup>1</sup>M.D Scholar (Govt. Ayurvedic College, Varanasi Deptt. of Panchakarma).<sup>2</sup>Assistant Professor(Govt. Ayurvedic College,Vns Deptt. of Panchakarma).<sup>3</sup>Assistant Professor (Ankerite Ayurvedic Medical College, Lucknow Deptt. of kayachikitsa).**\*Corresponding Author: Dr. Sony Singh**

M.D Scholar (Govt. Ayurvedic College, Varanasi Deptt. of Panchakarma).

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## ABSTRACT

*Shirodhara* is allied *Panchakarma* procedure, which has got worldwide popularity because of its simple administration and efficacy of variety of disorders. *Shirodhara*, an icon of *ayurveda* in global scenario. Pouring of medicated *kwath* (*decoction*) or oil on forehead is known as *Shirodhara*. *Shirodhara* is also a type of *bahya snehana* (external oleation therapy) as mentioned in *ayurveda*. *Shirodhara* is mainly indicated in neurological and Psychological disorders. Still how *Shirodhara* execute its therapeutic effect, is unclear. Therefore, in this article an attempt has been made to understand the probable mode of action of *Shirodhara* procedure from *ayurveda*, modern and other aspects.

**KEYWORDS:** *Panchakarma*, mode of action, *Shirodhara*, *moordha tail*.

## INTRODUCTION

The word *shirodhara* is derived from Sanskrit language *shiro* (head) + *dhara* (to flow). *Shirodhara* is a form of independent *snehana* procedure, wherein involves gently pouring liquids over the forehead. The selection of the drug and duration depends upon various factors including characteristics of disease, chronicity, involvement of *dosha*, patient's prakriti and environmental condition. There are various specialized forms of *shirodhara* such as *Tailadhara*, *Ksheeradhara*, *Takradhara*, *Jaladhara* and *Kwathadhara*. Though classically this procedure is not described under the *panchakarma*, but it incorporated under *snehana* karma. *Murdhatailam* has been described in the *Ayurveda* which is of four type's viz. *Shiroabhyanga*, *Shirosheka*, *Shiropichu*, *Shirobasti*. These are superior in their succeeding order.<sup>[1]</sup>

This procedure can be a *poorvakarma* to main *panchakarma* or *pradhan karma* depending upon the condition of the patient. *Shirodhara* is classically advised for many diseases like insomnia, attention deficit hyperactivity disorder, anxiety disorders, phobia, depression, essential hypertension and other psychosomatic disorders. The present paper presents the evidence based approach of the classical *Ayurvedic* procedure "*shirodhara*". Apart from this article provides an insight into the probable mode of action of *shirodhara*.

## Indication of Shirodhara

*Ardhavabhedaka*, *Suryavarta*, *Ardita*, *Pakshaghata*, *Hanugraha*, *Akshishula*.

*Nidranasha*, *Shirogata Vata*, *Shirahkampa* (*Ch. Sam.*; *Su. Sam.*; *B. P.*; *Y.R.*) Nowadays, it is indicated in almost all stress and psychosomatic disorders such as IBS, Asthma, Neurological disorders viz. Headache, epilepsy, and psychiatric disorders like psychosis, neurosis, insomnia and also in psoriasis, eczema, H.T. etc.

## Contraindication

*Kaphaja Vikaras* – *Shirodhara* further increases *Kapha*, which makes the disease difficult to cure.

## Dhara and Its Benefits

When medicated *kwath*, *Ghee* or *Taila* is poured on the forehead, it is called *Taila Dhara*. It improves speech, stabilizes mind, increases the physical strength, remove anorexia, increases sweetness of voice, softness of skin. It is helpful in *Timira* and *Netra Roga*, *Shukra* etc. *Dhatu* are nourished, increases virility excessive body temperature is reduced and patient can get good sleep. According to *Acharya Charaka*, one who has his head well oil massage daily does not get headache, baldness and grey hair. The strength of his cranial bones is markedly increased and his hair becomes firmly rooted and very black. The sense organs are toned up and the skin of the face becomes beautiful and the person gets good sleep and feels happy.

## DISCUSSION

Clinically the efficacy of *Shirodhara* is proved; still it is a difficult task to understand the mode of action of this procedure. *Shirodhara* is effective in following ways.

A/c to *Ayurveda*- In a living being, the head is the substratum of all the sense faculties, or *Indriyas* (sense organs), it is also known as *Uttamanga*.<sup>[2]</sup> Because of this, *Shirodhara* gives strength to the *Prana* and *Indriyas*, which are mostly vitiated in case of psychological disorders. *Indriyas* are in close contact with the mind, so when *Indriyas* stay healthy the mind automatically stays healthy. *Shirodhara* thus keeps the body and mind healthy. Imbalance of *Prana*, *Udana* and *Vyana Vayu*, *Sadhaka Pitta* and *Tarpak Kapha* can produce stress and tension. *Shirodhara* reestablishes the functional integrity between these subtypes of *Dosha* through its mechanical effect.<sup>[3]</sup>

### Therapeutic effect of medicament

As per the principle of drug absorption, absorption of the substances through the skin depends on a number of factors, the most important of which are concentration duration of contact, solubility of medication, and physical condition of the skin and part of the body exposed. In *Shirodhara* oil form is used which has good dense concentration with longer duration of contact. Also the skin over the scalp is thin as compared to other part of body and absorption is faster and more from the scalp. (As per the principle of drug absorption maximum absorption is in the scalp region and comparatively oil is better absorbing than water.<sup>[4]</sup> Dermal absorption.<sup>[5]</sup> The skin is relatively permeable to fat soluble substances and relatively impermeable to water soluble substances. Essential oil molecules are so minute that when they are applied to the skin; they are able to pass through the stratum corneum (the outer layer of the epidermis). From here the oil molecule passes through dermis, into the capillaries and into the bloodstream. Absorption also occurs through the hair follicles and sweat ducts. There are many factors that affect absorption of an oil molecule. Both rate of circulation and the warmth of the skin increase blood flow to the surface, therefore increasing the skin's ability to absorb the oil. Circulation and warmth can be increased by massage.

### Procedural effect of the *Shirodhara* process

Each substance at a certain altitude possesses potential energy, and that energy becomes kinetic energy when it falls down from a certain altitude under 'Law of Energy Conservation'. This law means that energy can neither be created nor destroyed; rather, it can only be transformed or transferred from one form to another.<sup>[6]</sup> Potential energy depends on the mass and height of the substance. If height remains constant then potential energy depends on mass of substance or mass energy, more mass of a substance will be the energy the substance possesses. When anything pours on the forehead from a certain height due to the change in the form of energy it generates momentum, it can cause voltage changes and

stimulate the generation of nerve impulses or accentuate the conduction of nerve impulses. The magnitude of momentum is the factor that determines the voltage difference between the generation and conduction of the nerve impulse if its magnitude is small; the energy is absorbed by the skull. According to modern physiology continuous electrical activity in the brain that generates electromagnetic waves and that is recorded by the Encephalogram (EEG).

### Effect of temperature in *Shirodhara* procedure

The continuous flow of warm liquid on the forehead for such a long period will cause mild vasodilatation. *Shirodhara* improves the circulation in these areas and help in regularization of the blood supply of the brain. Vibration along with temperature may activate the function of thalamus and the basal forebrain which then brings the amount of serotonin and catecholamine to the normal stage.

### Effect of constant pressure in *Shirodhara* procedure

Constant pressure and vibration produced in the *Shirodhara* procedure, amplified by the hollow sinus present in the frontal bone. The vibration is transmitted inward through the fluid media of cerebrospinal fluid (CSF). Pressure also affects impulse conduction. If prolonged pressure is applied to a nerve, impulse conduction is interrupted, and part of the body relaxes in *Shirodhara* procedure. Due to the tricking of medicated liquid over the forehead, prolonged and continuous pressure causes tranquility of mind and reduces stress by modulating nerve stimulation. When nerve ending of autonomic nervous system is stimulated, they produce chemical substances like Acetylcholine which exists in the tissues in the inactive form and is activated by a nerve impulse vibration produced due to continuous pouring of liquid over the forehead which may stimulate nerve ending and in turn Acetylcholine cause fall of blood pressure leading to decreased activity of central nervous system resulting in tranquility of mind. During the process of patient concentrations of *Dhara Dravya* (Medicated oil or any type of liquid), this is falling on his forehead, which increases the intensity of brain waves and decreases the brain cortisone and adrenaline level. This factor is also work as an anti-stress effect of *Shirodhara*.

### On the basis on *Marma*

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>[7]</sup> According to *Acharya Bhela Bhrumadhya* (Between both eyebrows) is the site of *Chitta (Mana)*. It is also place of *Sthapni Marma*.<sup>[8]</sup> Most of the *Marma* of head region are *Agni* and *Vayu Pradhana Mahabhoota*.<sup>[9]</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>[10]</sup> Mental stress and irritability were the causative factors were endocrine system gets imbalance of its normal function.<sup>[11]</sup> Due to the stimulation of *Sthapni Marma* and indirect stimulation of pituitary gland brings changes in psycho-somatic level. Hence *Shirodhara therapy* helps in relieving the mental stress by regulating the normal function of this gland.

## CONCLUSION

From the above discussion it can be concluded that *Shirodhara* works on the law of Energy Conservation. It is a purifying and rejuvenating therapy which eliminates toxins and mental exhaustion as well as relieves 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. These can be understood from the aspect of Ayurveda, mechanical and Marma science.

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