

## PHARMACODYNAMICS OF SHIRODHARA

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### ABSTRACT:

*Shirodhara* is a classical and a well established Ayurvedic *Panchakarma* procedure, popular accross the world for its stress relieving effect. This procedure induces a relaxed state of awareness that results in a dynamic psycho-somatic balance. It is useful in somatic as well as psychosomatic disorders. Still how *Shirodhara* execute its therapeutic effect, is unclear. Therefore, in this article an attempt has been made to understand the pharmacodynamics of *Shirodhara* procedure from *Ayurveda*, modern and other aspects.

**Key words:** *Moordha Taila, Panchakarma, Pharmacodynamics, Shirodhara.*

**INTRODUCTION:** Modern lifestyles of present era, lead to poor health in many ways. However, the use of simple and natural methods can significantly improve health and vitality. *Shirodhara* is one of such *Panchakarma* methods. *Shirodhara* is an ancient Ayurvedic healing therapy practiced in Bharat since ancient time. The word *Shirodhara* breaks down into two ideas: *Shiro*, meaning head, and *Dhara*, which means flow. Together they form a relaxing technique, in which person on whom *Shirodhara* is perfomed is lie down on the table and *Abhyanga* is performed as *Poorvakarma*. Afterwards medicated or nonmedicated liquide is poured on the forehead from a specific distance and specific period in a specific manner as *Prandhankarma* and then his head is wiped out in *Paschatkarma*. There are specialized forms of *Shirodhara* called *Tailadhara, Ksheeradhara, Takradhara* and *Jaladhara*, depending on the medicament used to perform it.<sup>1</sup>

**MATERIALS AND METHODS:** The classical *Samhitas*, various Ayurvedic and modern books, theses, published papers and e-media were used to compile literature for the work.

**DISCUSSION:** It is clinically proved by several research study that *Shirodhara* therapy is effective in various disorders, still there is some lacuna in understanding its pharmacodynamics, which can be explored in following ways.

#### Procedural effect of *Shirodhara*:

- In Ayurvedic texts, there are four type of technics of *Moordha Tail* have been described. It includs *Shirah: Abhyanga, Seka, Pichu* and *Basti* and said that “*Uttarottara Gunaprada*”.<sup>2</sup> It means that each has different effect as each performed with different method, which indicates that there is a specific mechanical effect of therapy.

- The plain water without having chemical or therapeutic properties, is observed effective

- in *Jaladhara* due to its procedural effect.<sup>3</sup>

- The liquid is poured on a forehead in *Shirodhara*, induces the somato-autonomic reflex through thermosensors or pressure sensors of the skin or hair follicles via trigeminal cranial nerve and provides physiological effect of therapy.<sup>4</sup>

**Effect of *Shirodhara* on Blood circulation:**

- Due to warm effect of the oil used for *Shirodhara*, there is local vasodilatation. *Shirodhara* lasts for 45 minutes. The continuous flow of warm fluid on the forehead for such a long period will cause mild vasodilatation. The region where *Shirodhara* is performed overlies mainly cortex arterial branches, venous sinuses, venous reservoir of the brain, superior sagittal and cavernous venous sinuses. *Shirodhara* improves the circulation in these areas and helps in regularizing the blood supply of brain.<sup>5</sup>

#### **Effect of *Shirodhara* on Neuro Transmitters:**

- *Shirodhara* may have sedative effect on hyperactive limbic system, caused by stress. It leads to facilitate the inhibitory presynaptic action of GABA and also reduces high level of noradrenaline, which are found high in anxious state of mind.<sup>5</sup>

#### **Effect of *Shirodhara* on Tridosha:**

- Stress and tension causes imbalance of *Prana*, *Udana* and *Vyana* *Vayu*; *Sadhaka Pitta* and *Tarpaka Kapha*. *Shirodhara* reestablishes the functional integrity between these three subtypes of *Dosha* through its positive effect.<sup>6</sup>

#### **Therapeutic effect of the medicament used for *Shirodhara*:**

- The maximum absorption of drug is in the skin of scalp and oil is better absorbed compare water.<sup>7</sup> It suggest that the medicament used for *Dhara* is definitely absorbed.

#### **Effect of *Shirodhara* as per Yogic science:**

- *Shirodhara* is performed in *Savasana* position, which is used for relaxation in *Yogic* science. During *Shirodhara* patients concentrate where *Dhara* is poured on the forehead. As the

patient concentrates on a particular place, the thought process decreases and thus entire psycho-physiology relaxes.<sup>8</sup>

#### **Effect of *Shirodhara* on *Shada Chakra*:**

- *Dhara* poured on *Agna Chakra* (space between two eyebrows), is the seat of pituitary and pineal gland. *Shirodhara* regulates their stimulation and helps to bring hormonal balance.<sup>9</sup> It also normalised elevated cortisone & adrenaline, synchronizes the brain wave (alpha waves), strengthens the mind and this continues even after the relaxation.<sup>10</sup>

#### **Effect of *Shirodhara* as per Marma science:**

- In forehead region, mainly *Sthapani*, *Utkshep* and *Avarta Marma* are located. As mentioned earlier it is also a place of *Agna Chakra*. According to *Acharya Bhela*, the location of *Chitta (Mana)* is *Bhrumadhy* and same is place of *Sthapani Marma*.<sup>11</sup> *Shirodhara* makes the patient concentrate on this area by which the stability arrives in the functions of mind.

#### **Effect of *Shirodhara* on *Manomaya Kosha*:**

- *Shirodhara* works primarily on the mental sheath or "Manomaya Kosha" as it is referred to in *Ayurveda*.<sup>12</sup>

**CONCLUSION:** On the basis the review article concluded can be drawn that *Shirodhara* is having significant procedural effect, which can be further improvised with adding therapeutic effect of medicament used in it. The pharmacophysio-psychologic action of *Ayurvedic Shirodhara* treatment may be understood from the aspect of *Ayurveda*, mechanical, *Marma*, *Chakra* and *Yoga* science.

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