

**THE MANAGEMENT OF MENOPAUSAL SYNDROME WITH SHIRODHARA AND SHAMAN YOGA - A PILOT STUDY****Dr. Shrawan N. Kamble<sup>\*1</sup>, Dr. Vishwalata Dhole<sup>2</sup>, Dr. Shilpa Donga<sup>3</sup>, Dr. Yogesh L. Manani<sup>4</sup>, Dr. Hemant Patel<sup>5</sup>**

<sup>1</sup>\* Assistant Prof., Dept. of Streeroga & Prasootitantra, Ashvin Rular Ayurved College, Manchi hill, Sangamner, Maharashtra, India - 413714.

<sup>2</sup>M.S. Shalakya, Nshik, Maharashtra.

<sup>3</sup>Associate Prof. Dept. of Streeroga & Prasootitantra, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jannagar, Gujarat, India – 361008.

<sup>4</sup>Assistant Prof. Dept. of Streeroga & Prasootitantra, Noble Ayurved College and Reasearch Institute, Junagadh, Gujarat, India – 362037.

<sup>5</sup>Assistant Prof. Dept. of Streeroga & Prasootitantra, RMD Ayurved College and Hospital, Vaghaldhara, Valsad, Gujarat, India – 396040.

**\*Corresponding Author: Dr. Shrawan N. Kamble**

Assistant Prof., Dept. of Streeroga & Prasootitantra, Ashvin Rular Ayurved College, Manchi hill, Sangamner, Maharashtra, India - 413714.

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**ABSTRACT**

The present clinical trial was conducted to evaluate the efficacy of Shirodhara and Shaman Yoga in the management of menopausal syndrome, along with the assessment of vatic and Paittik symptoms. . It was randomized open clinical trial. Total 10 patients were registered in the study and completed the course of therapy. Specialized rating scales like Menopause Rating Scale (MRS) and Menopause Specific Quality of Life (MENQOL) questionnaires were adopted for diagnostic as well as assessment criteria. The effects were examined based on MRS and MENQOL. Results were analyzed statistically using ‘t’ test. The effects were examined on the chief complaints as well as the associated complaints. Patients undergoing therapy had better relief of the disturbances of Manasa Bhavas and psychic symptoms of menopause also showed encouraging results in management the associated somatic symptoms. Hence, we conclude that it can be used as an alternative therapy to HRT.

**KEY WORDS:** menopausal syndrome, Rajonivrutti, Shaman yoga, Shirodhara.

**INTRODUCTION**

The propagation of the species is a basic aim of nature. In the multiplication of the human race ‘woman has a pivotal role to play.’ In the fashioning of a woman's bodily structure nature has proved its great capacity and efficiency in a very astonishing manner.

The phase of ‘menarche’ and ‘menopause’ have important influences on the physical, psychological, social, and emotional aspects of a woman. The menopause is a natural phenomenon and one of the life's important milestones. As both menarche and menopause are related to post-birth changes, both should be tackled with the same caution and care; however, sometimes increasing age and diminishing qualities from life make the menopausal condition more difficult to handle in the lack of proper understanding, sound medical advice, and good social support. Not every woman passes through a torrid time during this phase but every female surely knows about the negative changes associated with the onset of the menopause. This period is usually associated with unavoidable manifestation of aging process in women.<sup>[1]</sup> Most women experience near complete loss

of production of estrogen by their mid-fifties.<sup>[2]</sup> Hot flushes, sweating, changes in mood and libido are some of the important outcomes affecting the quality of life (QoL) during climacterium in women. QoL covers physical, functional, emotional, social, and cognitive variables up to 85% of menopausal women.<sup>[3]</sup> The period of menopause is a time of tremendous changes in lifestyle. These changes may cause loss of equilibrium and discipline in her day-to-day life.

Though, Rajonivrutti as a diseased condition is not described separately in the classical Ayurveda texts, Rajonivrutti Kala is mentioned by almost all Acharyas without any controversy. According to Sushruta<sup>[4]</sup> and various other references too<sup>[5-7]</sup> 50 years is mentioned as the age of Rajonivrutti, when the body is fully in grip of senility.<sup>[8]</sup>

There has been extensive research on menopause in the West, but in India only a few research institutes have recognized the potential of research on this subject. Being a common and distressing problem, it needs

							1.17		
S. Estrodiol	103.64	61.46	42.18	36.51↓	34.92	15.61	2.70	10	<0.05

**Table 6: Total Effect Of Therapy In Group A.**

Effect of therapy	No. of patients	%
Unchanged - □ 25% relief	0	0
Mild Improvement -26-50% relief	6	60
Moderate improvement -51-75%	4	40
Markedly improved -76-99% relief	0	0
Complete cure -100% relief	0	0

**CONCLUSION**

Shirodhara and Shaman Yoga combined is better in various psychological disturbances mainly include headache, irritability, depression, mood swings, sleep disturbances, etc., So, it can be concluded that in women with mild to moderate symptoms of menopausal syndrome, a Shaman Yoga gives better result in both somatic as well as psychological complaints. No any adverse effect was noted during the study. Therefore it could be a safe alternative therapy of HRT. It is found to be an effective therapy in psychological and somatic problems related with menopausal syndrome.

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## Effects of *shirodhara* in generalized anxiety disorder

Sanjeev Rastogi<sup>1,2,\*</sup>, Anriksha Baiswar<sup>1</sup>, Anil Nischal<sup>3</sup>, Prem Swarup Srivastava<sup>4</sup>, Anuradha Nischal<sup>5</sup>

<sup>1</sup>State Ayurvedic College and Hospital, Lucknow; <sup>2</sup>Rashtriya Ayurveda Vidyapeeth, New Delhi; <sup>3</sup>Department of Psychiatry, KG Medical University, Lucknow; <sup>4</sup>Shivalik Ayurvedic Medical College and Hospital, Ajamgarh; <sup>5</sup>Department of Pharmacology, KG Medical University, Lucknow, India

### ABSTRACT

Anxiety is a common clinical presentation. Primary anxiety poses a significant problem in its management. Many among the current treatment options of anxiety are habit forming causing significant withdrawal symptoms. There are dose dependent responses often associated with drug adversities. Day time sedation is an undesired effect of many drugs used for anxiety management limiting its usage. Ayurveda recommends a bio- physical procedure to manage anxiety. *Shirodhara*, a dripping procedure is utilized as a front line therapy for anxiety in Ayurveda. Seeing the limitations of conventional biomedical management of anxiety requiring an improvement upon the existing protocols of managements, and also seeing the use of *shirodhara* for anxiety management in ayurvedic clinics, a pragmatic study to evaluate the effect of *shirodhara* in generalized anxiety disorder was done. This was a pragmatic study consisting of *shirodhara* with *ksheer bala* oil as an intervention upon generalized anxiety disorder patients. The study was conducted upon 13 patients and observations were done for six weeks. The responses observed through the changes in Hamilton Anxiety Scale were evaluated using paired t test to observe the pre-post significance.

**Keywords** anxiety, generalised anxiety, *shirodhara*, *ksheer bala* oil

### INTRODUCTION

Anxiety is understood as the state of apprehension or uneasiness arising due to the anticipation of insecurity or assault. It is pathological when it is unreasonable, exaggerated, recurrent and causing a significant psycho-physiological distress. Generalized anxiety disorder (GAD), a common variant of anxiety disorders, has 2 - 5% prevalence in general population (Baxter et al., 2013). With an increasing population and subsequently increasing socio-economic stress, incidence of anxiety is also increasing. Anxiety affects the personal performance causing a significant dip in the quality of the social - interpersonal relationship. Eventually, a patient of anxiety disorder fails to contribute optimally to the personal or societal needs. The result is a significant personal and societal direct and indirect loss.

Anxiety is a pervasive phenomenon continuing for a significant period. Current stake of therapy for anxiety disorder depends upon antidepressant drugs and Cognitive behavioral therapy (CBT). Dependency and requirement of prolonged treatment sessions are biggest limitations of the existing therapeutic options for Anxiety. Withdrawal is also a challenge once these drugs are instituted.

Ayurveda for its pro-health principles, utilizing the natural resources and healthy life measures, is emerging as a user friendly, economical, viable, and dependable treatment

alternative for many physical and mental illnesses. *Samshamana* (palliation) and *Samshodhana* (elimination) constitute the two major modes of Ayurveda interventions in a disease (Rastogi, 2012). *Panchkarma* is a comprehensive *Samshodhana* strategy from Ayurveda, aiming at elimination of disease causing agents by various specialized means and methods. There are many allied bio-physical procedures also within the purview of *Panchkarma* as a help in treating various ailments. *Shirodhara* (oil dripping on forehead), *Shirovasti* (oil bath of scalp), *Netravasti* (oil bath of eye), *Januvasti* (oil bath of knee) are example of such procedures having their specific method of application and indication as per the classical reference of Ayurveda.

*Shirodhara* (*Shiro* means head and *dhara* means flow) involves gentle pouring of a medicated liquid upon the forehead. It is traditionally used to treat variety of conditions related to cognition, sleep and anxiety.

Although, existing scientific evidence regarding the therapeutic effectiveness of *shirodhara* in various traditional indications is supportive to the claims made in this regard (Vinjamury et al., 2014; Nakanekar et al., 2015; Sriranjni, 2009), the strong evidences are still lacking for its use in specific clinical conditions. It is in this purview, a pragmatic study to observe the effect of *shirodhara* in patients of Generalised Anxiety disorder was carried out.

Besides *shirodhara*, anxiety is dealt in Ayurveda with *satvavajaya* (ayurvedic psychotherapy) and a few *samsamana* (palliative) measures including the use of few herbs like *Jatamansi* (*Nordostychnus jatamansi*), *Brahmi* (*Bacopa monnieri*), *Ashwagandha* (*Withania somnifera*) and *Vacha* (*Acorus calamus*). Various *ghrita* (clarified butter) preparations are also prescribed in various psychiatric conditions described in Ayurveda. Other traditional systems practiced in the world also have their own theories and approach towards anxiety. In

\*Correspondence: Sanjeev Rastogi

E-mail: rastogisanjeev@rediffmail.com

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In conclusion, *Shirodhara* invited considerable attention among scientific community in recent past. The major concern of this interest is its usefulness in various neurocognitive disorders without any internal drug intake. *Shirodhara* is used routinely in ayurvedic clinics for conditions like insomnia, headache, migraine, anxiety and stress. Impacts of various mediums used in *shirodhara* are reported and maximum stress reducing effects are observed through oil as a medium. Effects of *shirodhara* are found to be equated with meditative state and a reduction in catecholamine and an increased serotonin reuptake is proposed as one mechanism of its action (Dhuri et al., 2013; Uebaba et al., 2005). *Shirodhara* can be a good addition to existing anxiety management protocol with reduced dependency and reduced adversity but with added efficacy of the integrated protocol. More robust and long term follow up studies are however required to reach to this conclusion.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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## THERAPEUTIC EFFICACY OF SHIRODHARA IN PSYCHOSOMATIC DISORDERS

Dr. Vaidehi V.Raole<sup>1</sup> Dr. Veena Himanshu Sharma<sup>2</sup> Dr. Vivek Dhongdi<sup>3</sup> Dhirajsingh S Rajput<sup>4</sup>

<sup>1</sup>Associate Professor, Department of Sharir Kriya, Parul Institute of Ayurveda, Parul University Limda, Waghodia, Vadodara, Maharashtra, India

<sup>2</sup>Associate Professor & HOD, Dept. of Shalakya Tantra, MSM Institution of Ayurveda BPS Mahela Vishwavidhyalaya, Khanpur, Kalan, Sonapat, Haryana, India

<sup>3</sup>Assistant Professor, Dept. of Swasthvrutta, B. M. Ayurveda Mahavidyalaya, Nagpur, Maharashtra, India

<sup>4</sup>Assistant Professor., Ph.D. (Rasashastra), Department of Rasashastra and Bhaishajya Kalpana, Mahatma Gandhi Ayurveda College Hospital and Research centre, Wardha, Maharashtra, India

### ABSTRACT

*Shirodhara* is a form of Ayurveda therapy that involves gently pouring liquids over the forehead and can be one of the steps involved in *Panchakarma*. The name comes from the Sanskrit words *shiro* (head) and *dhara* (flow). Psychosomatic disorders may affect almost any part of the body, though they are usually found in systems not under voluntary control. Emotional stress is assumed to aggravate existing illnesses, and there is some evidence that it may precipitate illnesses not usually considered to be psychosomatic (e.g., HTN, diabetes, Psoriasis, IBS). *Shirodhara* facilitates to counterbalance the *Manasika* and *shareerikadoshas* which occurs simultaneously and this is potentiated by Psychoneuroimmunology (PNI) mechanism, hence the effect may be seen instantly.

**Keywords:** *Shirodhara, Panchakarma, Psychosomatic disorders.*

### INTRODUCTION

*Shirodhara* is a procedure in which certain liquids like oil, butter milk, etc. are poured over the forehead & scalp from a distance of 4 *Angula* for a period of 30 to 60 minutes for 7 to 21 days as per requirement. The etymology of *Shirodhara* is from *shira* = head and *dhara* = a steady flow. This procedure induces a relaxed state of awareness, which results in a dynamic psycho-somatic balance. A total feeling of wellness, mental clarity, and comprehension is experienced in this proc-

ess. It is quite recently that Japanese investigators have initiated state-of-the art studies on *Shirodhara* for its effects on psychoneuroimmunology.[1] Psychosomatic disorders resulting from stress may include hypertension, respiratory ailments, gastrointestinal disturbances, migraine and tension headaches, pelvic pain, impotence, frigidity, dermatitis, ulcers and so on. *Shirodhara* is a well-established *upakarma* procedure for centuries. It is widely practiced in India and also in *Panchakar-*

macentres abroad. Besides its therapeutic usage and its *shamana karma*, its general relaxing and calming effects are well-known and worth exploring with modern tools. However, there have been very few studies of *Shirodhara* in volunteers employing markers of psychosomatic relaxation [2] in some studies *Shirodhara* treatment showed a reduction in their anxiety levels as per the mood assessment scores. It changes in vital signs, EEG, ECG, salivary cortisol, and urinary catecholamines as putative correlates of stress [3]. The changes in the EEG records confirmed the subjective relaxant effect scored by the V.A.S. for stress relief. For example, the nature of the EEG waves changed more to alfa, and even theta waves. However, the EEG changes, the baseline values of salivary cortisol and urinary catecholamines were not significantly affected by *Shirodhara* in the fractional samples. There is a need to conduct the programme of several sessions of *Shirodhara* in a group of patients with anxiety neurosis to evaluate the effects on salivary cortisol and urinary catecholamines.

#### **Effect of *Shirodhara* on body and *Mana*(Mind):**

*Dharais* not only used in psychic diseases but also used in psychosomatic diseases like IBS (Irritable Bowel Syndrome), Psoriasis, EHT, etc. Continuous pouring of *dhara* on forehead for a specific period has Tranquilizing effect & regulates rhythm *Mana & Prana Vayu* it also induces Sleep. In *Dhara* therapy, prolonged and intermittent stimulation by the dripping oil may provide afferent inputs to the cerebral cortex, leading to a tranquilizing effect.

#### **1. Effect on *Marmas***

*Marmas* are the *Pranas* may be correlated with vital energy of body on stimulation they activate immune system.

**2. *SthapaniMarma*:** Just below this area inside the skull lies the venous reservoir of the brain the superior Sagittal and Cavernous Venous Sinuses.

**3. *ShankhaMarma*:** 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.

**4. *UtkshepaMarma*:** Intracranial cavity and venous sinuses the wall of which are made of coverings of the brain lie in this region

**5. *AdhipatiMarma*:** 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. *Shirodharas* stimulates these *Marmas* and improves circulation; liquid used for *Shirodhara* is always luke warm which causes vasodilatation of all the channels and Thereby improving their circulation which in turn improves the blood circulation of 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.

#### **6. Effect on *Chakras***

*Shirodharamay* stimulate *Acharya Chakra* thereby improving the functions of mind which is vitiated in Stress as it is the place of subtle mind. Structures like Pituitary gland, pineal body, subcortical structures of mid brain are related with mental functions like anger, grief, pain, fear, memory and other higher intellectual functions. *Shirodhara* acts at this level correcting their functions.

#### **7. Effect on Autonomic Nervous System**

*Shirodhara* may also have Alpha Adrenergic blocking effect and can thus block certain actions of adrenaline and nor adrenaline. It may also act on the adrenergic neuron probably produce their effects by modifying the synthesis storage and uptake mechanisms of nor-adrenaline.

### 8. 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.

### 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 like psoriasis. Psychoneuro Immunology Researchers have conducted two human clinical trials on the psychoneuroimmunologic effects of *Shirodhara*. In the first study a group of healthy females were randomly assigned to receive a *Shirodhara* treatment (with plain sesame oil) or remain in a supine position (control group), while being monitored for numerous physiologic, biochemical, immunologic and psychometric parameters. The second study had a similar design, with the addition of a third group that received *Shirodhara* with a medicated ses-

ame oil containing essential oil of lavender. Both the treatments resulted in decreased anxiety and promoted ASC (altered state of consciousness). After the plain sesame oil treatment there was a significant decrease in plasma noradrenaline and urinary serotonin excretion vs. the control group. A correlation with natural killer cell (NK cell) activity and anxiolytic effect within the *Shirodhara* group was also observed [4]. The ultimate aim of the *Shirodhara* therapy is to restore the equilibrium of *Sharira* and *Manasikadoshas* through the psycho-somatic axis, which in turn facilitates 'manoprasannatah' or tranquillity of mind, a positive sign of healthy state of the body. Researchers have recently investigated the effect of *Shirodhara* in psycho-physiological profile of healthy volunteers [5] and also in patients of generalized anxiety disorder [6] and found that the promising results in both the cases. In simple words Ayurveda treats the body through the medium of mind or *manas*. Modern drugs promote relaxation by blocking awareness of a stressful event, or by diminishing the importance one attaches to it. Under the influence of drug, one is not actively thinking about the problem for the time being. On the other hand the Ayurvedic approach makes one to realize the situation and adopt suitably to solve the stress problems in a refreshing way forever [7].

### CONCLUSIONS

*Shirodhara* is deeply relaxing and induces a relaxant state; these effects are mediated by the brain wave coherence, alfa waves, and a down regulation of the sympathetic outflow. *Shirodhara* helps to heal the body at the root level of disease, by calming imbalances in our mind and disturbances in our emotions it leaves you feeling in a heavenly state. The centre of the forehead, which was evolution wise related to the

third eye, is connected atavistically to the pineal gland. This spot is known as *Agnya Chakra* in the yoga tradition. Focusing on *agnyachakra* with closed eyes during meditation leads to psychosomatic harmony. As the oil drips on the *agnya chakra*, it is proposed that the meditation-like effect is a consequence of stillness of mind leading to adaptive response to the basal stress. *Shirodhara* facilitates to counterbalance the *Manasika* and *shareerika-doshas* which occurs simultaneously and this is potentiated by Psychoneuroimmunology (PNI) mechanism and shows good results in psychosomatic disorders.

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#### CORRESPONDING AUTHOR

**Dr. Vaidehi V. Raole**

Associate Professor,  
Department of Sharir Kriya  
Parul Institute of Ayurveda,  
Parul University Limda, Waghodia,  
Vadodara, Maharashtra, India

**Email:** sunder147@gmail.com

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## ORIGINAL RESEARCH ARTICLE

### CLINICAL EVALUATION OF JATAMANSI SIDDHA TAILA SHIRODHARA ON ANXIETY-NEUROSIS

ANUP JAIN<sup>1</sup> SURENDRA VEDPATHAK<sup>2</sup> ASHOK KUMAR SINGH<sup>3</sup> ARUN GUPTA<sup>4</sup> UMESH SAPRA<sup>5</sup>

#### Abstract

**Context:** Prevalence of Anxiety Neurosis in modern era is increasing due to high levels of stress at work and personal fronts. In the recent studies it has been found that Anxiety patients form 30% of total psychiatric patients and about 5% of total population suffers from it. The present study was undertaken to assess the efficacy of *Shirodhara Chikitsa*, as it acts on *Manovaha Srotasa*. **Aims and Objectives:** To assess the effect of *Jatamansi Siddha Taila Shirodhara* on Anxiety neurosis by clinical trials. To find out the efficacy, dose, any side effects of *Shirodhara*. **Settings and Design:** Randomized single blind control group study design was adopted. **Materials and Methods:** Total 60 patients of Anxiety Neurosis were selected and divided into two groups of 30 patients each and given *Shirodhara by Jatamansi siddha taila* and *TilaTaila*. Patients were evaluated with Hamilton's AAI et al Rating scale. **Statistical Analysis Used:** By using paired-t test and unpaired-t test, reduction in Anxiety level was measured. **Results:** By giving *Shirodhara with JatamansiSiddhaTaila* for 14 days, we get promising results 73.33% in Anxiety Neurosis and no relapses were seen in a follow up of 6 months. No significant results were found in group given *Shirodhara with TilaTaila* and also relapse was seen. No serious adverse effects were found. Total 73.33% symptoms of Anxiety Neurosis patients were relieved. **Conclusions:** *Shirodhara by JatamansiSiddhaTaila*, proved to be good treatment modality in the view of long term relief of Anxiety Neurosis as it acts by strengthening *Manovaha srotasa* and not just by suppressing vitiated *Dosha*.

**Key Words:** Anxiety Neurosis, Jatamansi Siddha Taila, Shirodhara, Tila Taila

<sup>1</sup>Clinical Registrar, <sup>4</sup>Head, Dept. of Panchkarma, Ch. Brahm Prakash Ayurved Charak Sansthan, NEW DELHI

<sup>2</sup> Head, Department of Panchkarma, College of Ayurveda, Bharati Vidyapeeth Universtiy, PUNE

<sup>3,5</sup> Assistant Professor, Dept. of Roganidan evam vikruti vigyan, Ch. Brahm Prakash Ayurved Charak Sansthan, NEW DELHI

Corresponding Email id: [dr.anupjain@gmail.com](mailto:dr.anupjain@gmail.com)

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*Guna* in it which helps in restoring the strength of *Mana*, especially the *Dhruti* part. *Jatamansi* has been described as *Balakantida* (improves *Bala* i.e. strength and *Kanti*) which highlights its actions on *Udana Vayu*<sup>[15]</sup> (which is associated with *Bala* and *Varna*). Thus, *Taila Dhara* with *Jatamansi Siddha Taila* balances the *Vataprakopa* – especially *Prana* and *Udana*, restores the strength of *Mana* – thereby taking care of *Sthanavaigunya* and improves the quality of *Rasa* and *Majja Dhatu* due to its *Snigdha Guna*. Therefore, it cures most of the stages of *Samprapti* of this condition and hence one can safely say that it helps in the *Samprapti-bhanga* process here. Nardostachyn and Jatamansone; the acting principles of Nardostachys Jatamansi (Jatamansi) may be acting as Antidepressant and Anxiolytic in patients suffering from Anxiety Neurosis.

In the group treated with *Tila Taila Shirodhara*, we see the initial effects of *Taila Dhara* which causes *Vata-Shamana* especially that of *Prana Vayu* because it is *Snigdha*, *Ushna* and *Vatashamana* in nature, but as it is not having the *medhya guna* of *Jatmansi Siddha Taila* the *Sthanavaigunya* is not treated hence the relapse is seen.

**Adverse Reactions:** During the treatment it was noted that if the *Shirodhara* was given for more than 30 minutes with *Jatamansi siddha taila*, patients complained of going blank, i.e.

they were not able to think for a few minutes. So it is suggested that *Jatamansi Siddha Taila Shirodhara* should not be given for more than 30 minutes. No other side effects were noted.

#### CONCLUSION:

- *Shirodhara* by *Jatamansi Siddha Taila* is effective in Anxiety Neurosis in comparison to *Tila Taila Shirodhara*.
- *Shamana Chikitsa* by using *Jatamansi Siddha Taila Shirodhara* is proven to be a good treatment modality in the view of long term relief of Anxiety Neurosis
- No serious adverse effects were noted.
- Total 73.33% relief was observed after giving *Jatamansi Siddha Taila Shirodhara* in patients suffering from Anxiety Neurosis. No patient was seen as having complete relief in the Group treated with *Tila Taila Shirodhara*.

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## Review Article

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### A CONCEPTUAL STUDY ON SHIRODHARA PROCEDURE

Nidhi Gupta <sup>1\*</sup>, Gopesh Mangal <sup>2</sup>

<sup>1</sup>PG Scholar, Department of Panchakarma, National Institute of Ayurveda, Jaipur, Rajasthan, India

<sup>2</sup>Assistant Professor & Head, Department of Panchakarma, National Institute of Ayurveda, Jaipur, Rajasthan, India

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#### \*Corresponding author

E-mail: dr.nidhigupta20@gmail.com

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#### ABSTRACT

Pouring of medicated Kwatha (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 psychosomatic disorders. Today's modern life style is full of stress and thus interfering the individual daily function. In current era the problems like insomnia, headache, facial paralysis, scalp psoriasis, hair fall etc. are the most common and challenging conditions. But till now effective management for these complaints are still lacking. Hence it is the need of time to find out the safe and effective treatment modalities for these diseases. Thus an effort is made to rule out the efficacy of Shirodhara in different psychological disorder. The apparent mode of action of this procedure is not understood. Ayurveda mainly highlighted the outcomes of the procedure rather than its action. So a review of Samhita, Chikitsa Grantha, Nighantus and Ayurveda text with regard to Shirodhara was conducted. Indication and Contraindication and therapeutic efficacy of Shirodhara were noted during the study.

**Keywords:** Shirodhara, Murdha Taila, Panchakarma, Dharapatra

#### INTRODUCTION

There are various form of Shirodhara such as Tailadhara Takradhara, Ksheeradhara, Jaladhara and Kvathadhara. 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, Shiroshaka, Shiropichu, Shirobasti. These are superior in their succeeding order [1]. It is one of Bahya Snehana (external oleation therapy) procedure in which Snehan is applied in head or it is a procedure wherein involves gently pouring liquids over of the forehead and has been indicated for psychosomatic disorders and neurological disorders etc. These disorders are not only the diseased condition but also affect the quality of life and cause anxiety, depression and work ability is decreased. In Ayurveda human body is compared to an inverted tree where the head is the main part of the body and other organ are its branches [2]. So the head controls every system, hence application of medicine in the form of Shirodhara, on the head can cure many disease of different parts of the body. Classically Shirodhara is advised for many diseases like Headache, Daha (burning sensation), Paka (Abscess), Vrana (Wound), Arunsika (Boils) etc. It also indicated in Ardhavbhedak (Migraine) [3], Suryavarta (Type of headache) [4]. Application of oil does not follow any form of massage. By the employment of this procedure one can achieve all the benefits in dermatological condition of scalp as well as psychological disorders. It can be performed in painful conditions or ulcerations of the scalp also. References regarding Shirodhara were collected from various textbook, published research papers, previous work done and compilation was done. Concept of Shirodhara and procedure was studied in detail.

**Definition-** Shirodhara term comes from the Sanskrit words, Shiro-means Head and Dhara-means Flow. Shirodhara is a form of Ayurveda therapy that involves gently pouring warm liquids over the forehead. It is the process in which medicated oil, milk,

Kwatha is poured in a continuous stream of drip on the forehead in a specific manner and height [5].

**Procedure-** The Shirodhara procedure is divided in to 3 parts [6];

1. Purva Karma
2. Pradhana Karma
3. Paschata Karma

#### Purva Karma

Materials required- Shirodhara patra, Shirodhara stand, Shirodhara table, Gauze, cotton earplug, Vessels, Soft towels, Suitable oil/milk/any liquid.

Preparation of the patient- The patient is thoroughly examined whether he is fit with for procedure. Patient should be advised to pass stool and urine. Then pulse, temperature and blood pressure of the patients should be recorded. Patient is advised to lie down in supine position and Dhara Patra should be fixed 4 Angula above the forehead. The eye and ear should be covered with cotton to prevent the entry of liquid into eyes.

Selection of Sneha- According to Dharakalpa, Sneha is taken according to the condition of Dosha [7]-

Vata Dosha- Tila Taila

Pitta Dosha- Ghrita

Kapha Dosha- Tila Taila

Rakta Dosha- Ghrita

Vata + Pitta + Rakta- Ghrita and Taila in equal par portion

Vata + Kapha + Rakta- ½ part Ghrita and 1 part Tila Taila

#### Pradhana Karma

Shirodhara room should be cleaned well, ventilated and very quiet. Shirodhara is done in the morning time on empty stomach after massage. Any type of liquid (Taila, Milk, Kwatha, water) should be kept in Dharapatra. Dhara should be poured continuously on forehead neither very fast nor very slow. The liquid of shirodhara should not be too hot or too cold. The stream of Dhara liquid should not be too thick or thin. When the liquid

starts pouring then the vessel is moved in the pendulum manner starting from one lateral side to the other lateral side. The liquid is collected in another vessel kept and is used to refill the Dharapatra before it becomes empty. Shirodhara process is done for at least ½ an hour in the morning up to 14/21 days. Temperature of liquid for Shirodhara should be above to the body temperature.

**Period for changing the liquid-**When milk and water is used in Shirodhara, it should be changed every day. When Dhanyamla is used, it can be used up to 3 days. The oil also should be changed every 3<sup>rd</sup> day, but it can be reused, so in the first 3 days, half of the oil should be used, for next 3 days the other half of the oil should be used and on the 7<sup>th</sup> day all the first and second half both are mixed together, then it should be discarded.

#### **Paschata Karma**

After the Shirodhara process is completed; the head of the patient should be wiped out and dried. This is followed by a short duration of rest and massage of the body including head with oil and then a lukewarm bath. The patient is advised to have a Pathya Ahara (light diet).

**Indications-** Stress and psychosomatic disorders such as IBS (Irritable Bowel Syndrome), Neurological disorders (Headache, Epilepsy etc.), Psychiatric disorders (Psychosis, Neurosis, Insomnia etc.), Convulsive disorders and also in Psoriasis, Eczema, Hypertension etc. Shirodhara is also used in patient Vata Vyadhi, Facial palsy, Loss of memory.

**Contraindication-** In Kaphaja Vikara, Shirodhara further increase Kaphaja, this makes the diseases difficult to cure.

#### **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 [8]. 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 re-establishes the functional integrity between these subtypes of Dosha through its mechanical effect [9].

**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 [10].)

**Dermal absorption [11]-** 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 [12].

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 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's 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 [13]. According to Acharya Bhela Bhrumadhya (Between both eyebrows) is the site of Chitta (Mana). It is also place of Sthapni Marma [14] Most of the Marma of head region are Agni and Vayu Pradhana Mahabhoota

[15]. 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 [16]. Mental stress and irritability were the causative factors where endocrine system gets imbalance of its normal function [17]. 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

Shirodhara is an important therapeutic measure 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 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. Shirodhara can be used for treatment of scalp, hair and psychological disorders.

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## **SOUVENIR & ABSTRACT BOOK**

# **1<sup>st</sup> International Conference on Unani, Ayurveda, Siddha and Traditional Medicine 2013**

**on  
Natural Solution for  
Health Challenges**



**Institute of Indigenous Medicine  
University of Colombo  
Rajagiriya, Sri Lanka**

### Salutary Benefits of *Cissus quadrangularis* Linn (Heeressa)

Samaranayake TDCL<sup>1</sup>, Ediriweera, ERHSS<sup>1</sup>, Weerasinghe KDCM<sup>3</sup>

<sup>1</sup>Department of Nidana Chikithsa, Institute of Indigenous Medicine, University of Colombo, Rajagiriya, Sri Lanka

<sup>2</sup>Borella Ayurveda Teaching Hospital, Sri Lanka

*Cissus quadrangularis* (Family: Vitaceae; Sinhala name: Heeressa) is a perennial plant of the grape family, commonly known as Devil's Backbone. It is a climber with thick, quadrangular, jointed, green, fleshy stem and grows widely in Northern Province of Sri Lanka. The stem and leaves of the plant are used externally and internally to treat various ailments. It has been used as a medicinal plant since ancient days but the majority of the physicians are not familiar with its internal uses. The Present study was undertaken to assimilate the traditional knowledge. Details and facts on therapeutic usage of *C. quadrangularis* were gathered from traditional books, Ayurveda and the traditional Physicians and through web search. It is used singly or in various formulations together with different medicaments. According to Ayurveda, *C. quadrangularis* has the properties of *Madhura* and *Kashaya Rasa*. *Laghu* and *Ruksha Guna*. *Amla Vipaka* and *Ushna Virya*. Further it also has *Kaphavatahamaka*, *Pittavardhaka*, *Deepana*, *Pachana*, *Anulomana*, *Krimighna*, *Raktashodhaka*, *Raktastambhana*, *Vishapaharana*, *Vrishya* and *Rasayana* properties. In Sri Lankan traditional medicine, this is widely used in orthopedic treatment, especially in healing of fractures. *C. quadrangularis* is also used in osteoarthritis, wounds, bleeding, cracked heels, malnutrition, malabsorption, diarrhoea, indigestion, gastritis, haemorrhoids, anemia, oedema, hepatitis, ascites, cough, whooping-cough, bronchial asthma, earache, toothache and fever. Its antibacterial, antifungal, anthelmintic, antioxidant, analgesic, anticancer, gastroprotective, antiosteoporotic and osteoblastogenetic effects have been proven scientifically. *C. quadrangularis* is used in Sri Lankan traditional exorcise rituals (*Shanthikarma* and *Thovil*); ceremonies conducted to appease "Planetary Gods" and demons, and to treat psychological disorders.

**Keywords:** *Cissus quadrangularis*, Heeressa, Properties, Uses

### A Review on the effect of *Shirodhara* on Fatigue after Stroke with special reference to *Pakshaghata*

De Silva DPPS<sup>1</sup>, Ediriweera ERHSS<sup>1</sup>

<sup>1</sup>Department of Nidana Chikithsa, Institute of Indigenous Medicine, University of Colombo, Rajagiriya, Sri Lanka

Stroke is a leading cause of disability in the world. It is caused by sudden interruption of blood supply to the brain and Hemiplegia is one of the outcomes. According to Ayurvedic concepts, *Pakshaghata* occurs mainly due to vitiation of *Vata Dosh* and it may be associated with *Kapha* or *Pitta Dosh*. Based on clinical signs and symptoms, *Pakshaghata* can be correlated with Hemiplegia. In addition to motor and sensory impairments, fatigue after a stroke is a common but neglected issue. Fatigue is defined as a feeling of lack of energy, weariness, and aversion to effort. It is more associated with physical disability, sleep disturbances and anxiety. *Shirodhara* plays an important role on *Pakshaghata*, since there is *Vikruti* in the *Mastishka* and *Marma Sthana*. It is performed by continuous pouring of a warm liquid on *Shirsha* within a specified time. *Shirodhara* is effective on *Pakshaghata* and its complications as it pacifies vitiated *Doshas*. Scientific studies reveal that *Shirodhara* is an effective healing technique that stimulates cerebral circulation, cerebral functions, state of consciousness, and control of high blood pressure. Further, it alleviates anxiety and insomnia. The probable effects of neurophysiological mechanism of *Shirodhara* on the psycho-physiological changes may be related to the limbic system as well as to the cerebral cortex. This helps to calm down and tranquilize the state of mind, reduce stress and insomnia. In view of these actions it can be emphasized that *Shirodhara* helps to alleviate fatigue after stroke and improve the quality of life.

**Keywords:** Fatigue after stroke, *Pakshaghata*, *Shirodhara*





Review Article

**AN EVIDENCE-BASED REVIEW ON SHIRODHARA: A UNIQUE PANCHAKARMA THERAPY**

**Kuldeep\*, Shaizi layeeq, Amit**

\*Research Officer, (AY.), Central Ayurved Research Institute, Punjabi Bagh, New Delhi, India.

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**ABSTRACT**

*Shirodhara* is a procedure consisting of continuous pouring of a stream of medicated oil, milk, buttermilk, etc. on the forehead of the patient from a specific height for a specified period. *Acharya Vagbhatta* has described four types of *Murdha Tail* i.e., *Abhyanga, Parishek, Pichu,* and *Shirobasti*, which is successively more beneficial than the previous one. *Shirodhara* or *Shiroparishechan* is one of them. Indication of *Shirodhara* was found in our ancient textbooks in various diseases like *Ardhavabhedaka, Suryavarta, Ardita, Pakshaghata, Hanugraha, Akshishula, Nidranasha, Shirogata Vata* and *Shirahkampa*.

In the modern era, it is a very widely used *Panchakarma* therapy and in this review article, an evidence-based approach is used to define the type, procedure, indication, contraindication, mode of action, complications and management and evidence of efficacy etc. of *Shirodhara*. Based on evidence *Shirodhara* has been found effective in various disorders like Insomnia, Psoriasis, ADHD in children, *Shirah Shoola*, essential hypertension, cerebral ischemic stroke and premature ejaculation when accompanied with other treatment modalities. *Shirodhara* was found effective on subjective as well as scientific parameters or modern biochemical markers parameters in various studies.

**INTRODUCTION**

The pouring of a liquid on the forehead or scalp is known as the *Shirodhara*. It is an ancient *Panchkarma* procedure and it is a well-established Ayurvedic therapy, it can be done by different medicaments like *Taila, Takra, Kshira, Kwatha*, etc. if we use medicated tail or ghee it would be called as *TailaDhara*. This *Taila Dhara* is included in the varieties of *Murdha Taila*, which are *Abhyanga, Seka, Pichu* and *Basti*. They are told '*Uttarottar Gunaprada*'. So, *Shirodhara* is a type of *Murdhataila* where suitable medicated oil is poured on the forehead and then allowed to flow over the scalp from a specific height.

**MATERIALS AND METHODS**

**Synonyms of Dhara**

It means a continuous flow of liquid from the hole of the pot.

<i>Dhara</i>	<i>Seka</i>	<i>Parisheka</i>
<i>Avasheka</i>	<i>Sechana - Sinchana</i>	<i>Prasechana</i>

**Indications**

Indication of *Shirodhara* was found in our ancient textbooks in various diseases like *Shiropaga, Anidra, Chittaudvega, Manoavasad, Unmad, Twakroga, Vepathu* and *Manasroga* like *Apasmar* etc.

*Shirodhara* is advisable in conditions like migraine, facial paralysis, paralysis, stiffness of the jaw, ocular pain, anxiety neurosis, insomnia, neuropsychological and psychosomatic disorders.

Nowadays, it is widely used for stress, psychosomatic disorders, and various types of neurological disorders such as epilepsy, chronic headache, and various kinds of mental disorders such as insomnia, psychosis and eczema and psoriasis, etc.

**Contraindications**

*Kaphaja Vikaras- Shirodhara* further increases *Kapha*, which makes the disease difficult to cure. It is also contraindicated in those who have just undergone *Sudhikarma*; (purification through *Panchkarma*) and those who are suffering from *Ajeerna/indigestion*.

**Method of Pouring of a Liquid (Shiro-Dhara)**

The procedure of *Shiro Dhara* may be divided into 3 parts

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disease, Residual Schizophrenia, anxiety disorder, depressive illness, parkinson's diseases, psycho somatic disorders (like- IBS, peptic ulcer syndrome, ulcerative colitis), fibromyalgia syndrome, skin disorders, and generalized cerebral atrophy.<sup>[7]</sup>

## RESULTS AND DISCUSSION

*Shirodhara* is a very effective therapy and in this section, we have discussed the results of various studies with their evidence

### Clinical research work on *Shirodhara* and their outcomes

1. *Shirodhara* showed significant improvement in serum biomarkers of stress. It provided significant relief in the grading of the POMS Score also.<sup>[8]</sup>
2. *Shirodhara* with *Brahmi* oil is very effective in moderate to severe insomnia.<sup>[9]</sup>
3. It is evidence that *Shirodhara*, can produce a very significant reduction in the respiratory rate, mean diastolic blood pressure, and heart rate and also an increase in the alpha rhythm and decrease in beta activity (confirmed by EEG).<sup>[10]</sup>
4. *Shirodhara* is found effective in the management of a condition like pediatric attention deficit hyperactivity disorder, cerebellar ataxia, essential hypertension, psychological symptoms of menopause, premature ejaculation, generalized anxiety disorder and insomnia, this procedure has a demonstrable anxiolytic effect evidenced by the decrease in Plasma noradrenaline and urinary serotonin excretion.<sup>[11]</sup>
5. *Dhara* therapy, specifically, *Takradhara* has shown a significant role in relieving stress-induced disorders.<sup>[12]</sup>
6. In a study, *Shirodhara* was found very effective in alleviating the symptoms of ADHD.<sup>[13]</sup>
7. *Shirodhara* is very effective in the management of *Vatika Shirah Shoola* w.s.r. to tension headache<sup>[14]</sup>
8. In a clinical study *Shirodhara* is found effective in the management of attention-deficit/hyperactivity disorder (AD/HD) affected children.<sup>[15]</sup>
9. It is evidence that *Shirodhara* is very effective in essential hypertension even compared to *Sarpagandha Vati*.<sup>[16]</sup>
10. In a study *Shirodhara* is found very effective in the management of *Anidra* (insomnia) and developing the feeling of well-being in the patient without having any side/toxic effects.<sup>[17]</sup>
11. *Shirodhara* was found effective in psycho-somatic management of *Shukraavrita Vata* (premature ejaculation) like intra-vaginal ejaculatory latency time, voluntary control over ejaculation, patient satisfaction, performance anxiety, and the number of penile thrusts etc.<sup>[18]</sup>

12. *Shirodhara* found very effective in *Pakshaghat* with special reference to cerebral ischemic stroke and this procedure produced significant results in gradation score of MPG and power of upper limb and lower limb in *Pakshaghat*.<sup>[19]</sup>
13. In a clinical study, it was found that *Shirodhara* was very effective in the management of stress-induced insomnia (*Anidra*).<sup>[20]</sup>
14. In a study, *Ksheerdhara* found effective in reducing systolic and diastolic blood pressure and also alleviating the symptoms of essential.<sup>[21]</sup>

## CONCLUSION

*Shirodhara* is a type of *Murdha Tail* and it is widely used in *Panchkarma* therapy. Synonyms of *Shirodhara* are *Dhara*, *Parisek*, *Paricsechan*. It is indicated in chronic headache, insomnia, senile dementia, motor neuron disease, Residual Schizophrenia, anxiety disorder, depressive illness, Parkinson's disease, psycho somatic disorders (like- IBS, peptic ulcer syndrome, ulcerative colitis), fibromyalgia syndrome, skin disorders, and generalized cerebral atrophy.

In this article, we have discussed fourteen studies conducted by various field experts in a scientific manner all over India. On review of various studies it is found to be very effective in insomnia, psoriasis, ADHD in children, *Shirah Shoola*, Essential hypertension, cerebral ischemic stroke and premature ejaculation when accompanied with other treatment modalities.

If we used this therapy under the guidance of an expert in indicated disorders with other medication it can very useful in alleviating different diseases as shown by various studies.

Conflict of Interest- None

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**\*Address for correspondence**

**Dr. Kuldeep**  
Research Officer, (AY.),  
Central Ayurved Research  
Institute, Punjabi Bagh, New  
Delhi.  
Email: [kuldeep.s@ccras.nic.in](mailto:kuldeep.s@ccras.nic.in)

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**Dr. Nirmal Bhusal**  
PhD Scholar, Department of  
Panchkarma, National  
Institute of Ayurveda, Jaipur,  
India

**Dr. Surya Prakash**  
PhD Scholar, Department of  
Panchkarma, National  
Institute of Ayurveda, Jaipur,  
India.

**Dr. Gopesh Mangal**  
Assistant Professor and Head,  
Department of Panchkarma,  
National Institute of  
Ayurveda, Jaipur, India

## Shirodhara in the management of chittodvegajanya anindra (insomnia due to generalized anxiety disorder)

**Dr. Nirmal Bhusal, Dr. Surya Prakash and Dr. Gopesh Mangal**

### Abstract

*Chittodvega* is considered as a *Mano Vikar* and has been mentioned as a causative factor of *Unmada Roga*. *Chittodvega* can be correlated with Generalized Anxiety Disorder. In *Chittodvega Kama*, *Krodha*, *Lobha*, *Moha*, *Irshya*, *Mana*, *Mada*, *Shoka*, *Bhaya* are found. A 19 year female patient with the history of *Anindra*, *Krodha*, *Shoka*, *Bhaya*, *Daurbalyata* since one year came National Institute of Ayurveda Jaipur, for treatment. The patient was *Vata Pitta Prakriti* with no history of any other systemic diseases. She was treated with *Shirodhara* with *Dashamula Kshira Kwatha*, *Pratimarsha Nasya* with *Ksheerabala Taila* and certain *Ayurveda* internal medicines (*Saraswatrishtha*, *Ashwagandharishtha*, *Brahma Rasayana*, *Avipattikar Churna*) for 14 days. *Shirodhara* although being a procedure of choice in *Insomnia* but marked relief in other *Lakshanas* of *Chittodvega* were observed after the completion of treatment. She had good sleep and she gained weight and was very happy with *Ayurveda* management. After follow up also the same status was maintained. *Medhya* drugs have the property of reducing anxiety and promote mental health. *Shirodhara* has good effect in the mental ailment by soothing the mind. *Ayurveda* management can be a treatment of choice in Anxiety Disorders.

**Keywords:** *Chittodvega*, *Shirodhara*, *Ayurveda*, Anxiety Disorders

### Introduction

*Chittodvega* is considered as a *Mano Vikar* and has been mentioned as a causative factor of *Unmada Roga* [1]. There is no separate description of *Chittodvega* but the factors which vitiate *Raja* and *Tama* can be considered as the *Nidana* of *Chittodvega*. In *Chittodvega Kama*, *Krodha*, *Lobha*, *Moha*, *Irshya*, *Mana*, *Mada*, *Shoka*, *Bhaya* are found. Patients with generalized anxiety disorder have persistent, excessive and /or unrealistic worry associated with muscle tension, impaired concentration, autonomic arousal, and feeling on edge or restless and insomnia [2]. Anxiety is a psychological and physiological state characterized by somatic, emotional, cognitive and behavioral components [3]. *Chittodvega* can be correlated with Anxiety Disorders. According to *Sabdakalpa Druma Nindra* is the state where mind and intellects are at rest. Due to lack of sleep symptoms like *Jrumbha*, *Angamarda*, *Tandra*, *Shiroroga*, *Akshigaurav* [4] and *Apakti*, *Jadyata*, *Vataja Roga* and *Glani* [5] are present. Modern medical treatments of Anxiety disorders require long term use of sedative, hypnotic and anxiolytic drugs which may lead to side effects. In *Chittodvega* there is vitiation between *Vata* and *Pitta* along with *Raja* and *Tama* so *Medhya* drugs, *Shirodhara* and *Nasya* procedure were selected in the case of *Chittodvegajanya Anindra*.

### Case report

A female patient aged 19 years came to the *Panchkarma* OPD at National Institute of Ayurveda Jaipur, India with complaint of *Chittodvega* (anxiety), *Anindra* (insomnia), *Krodha* (anger), *Shoka* (sorrowness), *Bhaya* (fear), *Daurbalyata* (weakness) since one year. The patient was unable to get sleep since 1 year back after she observed some short of family dispute of her parents. The family dispute was sort tempered anger between parents only. Since then she couldn't get proper sleep and the symptoms of *Krodha*, *Bhaya*, *Daurbalyata* increased. She was finding difficulty in initiation of sleep and also disturbed and broken sleep at night. Patient consulted different doctors but didn't get satisfactory relief.

**Correspondence**  
**Dr. Nirmal Bhusal**  
PhD Scholar, Department of  
Panchkarma, National  
Institute of Ayurveda, Jaipur,  
India

*Sadhaka Pitta* and *Tarpaka Kapha*. The *Shirodhara* helps the patient to concentrate, which eventually leads to stability in the functions of mind. *Prakriti* of the Patient being *Vata Pitta Pradhana* and considering the involvement of *Tridosha Dusti* in this case *Dashamula Kshira Kwatha* was selected. *Dashamula* being *Vata Kaphagna* and *Kshira* being *Pitta Shamaka Dashamula Kshira Kwatha* was taken. Temperature of the *Dravya Dhara* was taken *Shukoshana* depending on the *Dosha* status to avoid *Ama Dosha* in the *Srotas*.

### Conclusion

There was significant improvement in the case of *Chittodvegajanya Anindra*. *Chittodvegajanya Anindra* (Insomnia Due To Anxiety Disorder) though is difficult to manage, but *Shirodhara* with *Dashamula Kshira Kwatha*, *Pratimarsha Nasya* with *Ksheerabala Taila* and *Ayurveda* internal medicines can be good option for better management.

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## Case Report

Impact of *Shirodhara* on biological markers of stress: A case studySujata Rajan <sup>a, \*</sup>, Manoj K. Shamkuwar <sup>b</sup>, Ankur Kumar Tanwar <sup>a</sup><sup>a</sup> Dept of Kriya Sharir, Ayurvedic & Unani Tibbia College & Hospital, Govt of Delhi, India<sup>b</sup> Dept of Panchkarma, Ayurvedic & Unani Tibbia College & Hospital, Govt of Delhi, India

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## ABSTRACT

The unforgiving pace and complexity of modern life has greatly challenged our ability to live healthier and fully in the present moment. Industrialization, globalization, and competition in each sector lead to emotional stress and strain in life which is dangerous at the physical and mental levels. As per the classics of Ayurveda, *chinta* (stress) and *atichintan* (overthinking) are the causes of *Rasavaha srotodushti* which lead to many diseases. *Shirodhara* is an important healing technique of Ayurveda that has neuro-immuno-physio-psychological effects on the human body. Several studies have been carried out to evaluate the efficacy of *Shirodhara* in many diseases. A 35-year-old female patient with sleep deprivation, loss of concentration, and irritable mood symptoms was admitted to the hospital. She was assessed on the basis of the Profile Of Mood Score (POMS) questionnaire, Serum Cortisol (Sr. Cortisol), Dehydroepiandrosterone (DHEA). The patient was treated by *Shirodhara* with sesame oil for 14 days continuously. Results were assessed by biomarkers of stress and by POMS score. At the end of *Shirodhara*, there was significant improvement found in presenting complaints as well as on the POMS Score and Stress biomarkers. During or after the treatment, no adverse events were observed.

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## 1. Introduction

The human being has to face various challenges in day to day life because of a different kind of occupational, environmental, and social conditions. Such frustration and worry lead to stress which adversely affects our physical, social, mental, and spiritual health too.

In the face of a transforming world, the maintenance of life is critically dependent on keeping our inner environment constant called “homeostasis” and which threatens the homeostasis termed as stress [1]. Prolonged or inadequate response to stressors can impair the growth and development of the human body resulting in endocrine, metabolic, autoimmune, and psychological disorders [2]. Both psychologically and biologically, men and women tend to respond differently to stress [3]. But upon stress, women had greater subjective and behavioral emotional arousal [4], some conditions, such as depression and anxiety, are more prevalent in women [5]. We are dealing not only with physical challenges but

with emotional stressors too. Financial pressure, the demands of the workplace, hectic schedules – all of these can contribute to increasing our stress levels. All kinds of worries can trigger body flight and fight response. Stress is a profound risk factor for almost all non –communicable diseases, including cardiovascular diseases, cancer, diabetes, neurological disease.

There is a close connection between our body and our mind [6]. Charaka defined *Chinta* (stress)-*atichintan* (overthinking) are the causative factors of the vitiation of *Rasavaha Srotas*-a body channel [7] that may cause many diseases in the human body. *Chinta* aggravates *Vata* [8], the vitiated *Vata* adversely affects the heart and destabilize the *buddhi* and *smriti* [9] According to Ayurveda physiology, *Tridosha* (functional units of the body) regulates the normal physiology of the human body; they maintain or destroy the body by equilibrium or disequilibrium [10].

*Shirodhara* is a unique non-invasive technique of Ayurveda. Its non-invasive approach has been shown good or even better for the treatment of insomnia, anxiety, stress, headache, hypertension [11]. *Shiro* means head and *dhara* means dripping. *Shirodhara* is the procedure in which oil or any liquid dripping on the forehead in a steady stream or flow for 36 min to 1 h 12 min [12]. Total treatment duration in terms of days is not specified in classical texts, based on various practices in India *Shirodhara* is done for 3, 7, 14, or 28 days

\* Corresponding author.

E-mail: [sujataa.rajan@yahoo.in](mailto:sujataa.rajan@yahoo.in)

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that Total Mood Disturbance (TMD) at the base level was 49 which turned to -21 after the *Shirodhara* therapy. Positive subscales domains VIG (Vigour) and ERA (Esteem related effect) showed a marked increase in score and a decreased level of negative subscales after *Shirodhara*.

The systolic blood pressure (SBP) and diastolic blood pressure (DBP) after *Shirodhara* markedly reduced from mean score of 122.85 mm of Hg–112.14 mm of Hg and 78 mm of Hg–73.85 mm of Hg respectively. Systolic and diastolic Blood pressure both decrease significantly at P-value <0.001 after the *Shirodhara*.

### 3.1. Effect of *Shirodhara* on POMS scale (Table 2)

#### 3.1.1. Clinical outcome

Based on the assessment authors opine that there was a satisfactory response and many of the symptoms were reduced after even the 7th day of *Shirodhara*. There was an improvement in many of the domains in the POMS scoring scale. There was a marked improvement in TEN (tension)/ANG(Anger)/FAT(Fatigue)/DEP(Depression)/CON(Confusion) domain, which are negative subscales. All these domains showed a marked decrease in score. Positive subscales domain VIG (Vigour) and ERA (Esteem Related Affect), both showed a marked increase in score after *Shirodhara*.

After the 14th day of *Shirodhara*, the final assessment was done and found that in the domain of mood there was a significant decrease in tension and anxiety. The mental state, mood, and sleep of the patient were better. The level of Sr. Cortisol just after *Shirodhara* was decreased significantly. DHEA level showed a significantly decreased after the *Shirodhara*. No significant impact was observed on the pulse rate of the patient. Overall she felt better and her sleeping pattern got a little better towards the end of the day.

The patient was having *ashraddha* (disinclination for food), *aruchi* (anorexia), *aasyavairasya* (bad taste in the mouth), *hrilas* (nausea), *Gaurav* (heaviness), *tandra* (tandra), *angamard* (boadyache), *agnimandya* (loss od appetite), *akaalvali* (premature wrinkles), *akaalpalitya* (premature greying of hairs), *hritpida* (pain in chest), *shabd-ahsahishnuta* (intolerance for sound), *shosha* (dryness of mouth), *rukshata* (dryness of body) which are the symptoms of *rasvahsroto dusti* out of which all the symptoms except *akaalvali*, *akaalpalitya* were recovered after the course of *Shirodhara*

## 4. Discussion

A present case report of a woman who is working and having an adopted child suffering from cerebral palsy (CP) provides an overview of the clinical evidence for Hypothalamic –Pituitary-adrenocortical (HPA) axis axis and glucocorticoid dysfunction and the impact of *Shirodhara* thereon. According to Ayurveda *Rasvah*

**Table 2**  
Details on POMS scoring.

Scale	0 Day Score	7th Day Score	14th Day Score
TEN	15	09	01
ANG	13	06	01
FAT	05	08	05
DEP	12	08	00
CON	17	06	06
VIG	10	10	12
ERA	13	19	12
Total Mood Disturbance (TMD)	49	08	-21

Impact of *Shirodhara* on POMS Scale: The patient had stress. Their tension (TEN)/ANG(Anger)/FAT(Fatigue)/DEP(Depression)/CON(Confusion) decreased significantly after the sessions of *Shirodhara* for 14 days. Positive subscales domain VIG(Vigour) and ERA (Esteem related effect), both showed a marked increase in score after *Shirodhara*.

*shrotodusti* may cause many diseases. The affliction of the channels leads to vitiation of tissue element, vitiation of one lead to other and they vitiate *srotas* and *dhatu* [7]. Hence to prevent the body from the disease, it is necessary to avoid *Srotodushti*. As *chinta* (stress), *atichintan* (overthinking) are the causative factors of *Rasvahsrotodusti* hence treating the stress *Shirodhara*, which is an important healing technique of Ayurveda was intervened.

HPA axis is an important physiological stress pathway. The major part of the stress arbitrates by the Hypothalamic –Pituitary-adrenocortical axis [21]. The secretion of Glucocorticoids affects the HPA limb of the stress system [22]. Activation of HPA responsible for increased secretion of CRH, which stimulates the production of ACTH by the anterior pituitary gland. Further, ACTH acts on adrenal glands to release glucocorticoids [23]. Most GC have their role in stress and they also regulate cardiovascular, metabolic, immune, and behavioral processes [24]. DHEA as well as the cortisol produced in the cortex of the adrenal gland situated at the top of the kidney [25]. Serum levels of cortisol and DHEA both rise in response to physical and acute psychosocial stress [26,27]. In the present case, the level of Sr. Cortisol and DHEA were initially high. After the *Shirodhara* level of both the biomarkers of stress reduced, these results reflect the action of *Shirodhara* on HPA axis. Kishor et al. stated that their study provides evidence for the antidepressant and effective neuroendocrine modulatory influence of Ayurvedic intervention along with *Shirodhara* in patients of *Vishada* (Major Depressive Disorders). In their study cortisol level was decreased after the therapy [28]. *Shirodhara* has psycho-neuro-immunological effects such as a decrease in noradrenaline level, exhibiting of sympatholytic effect, activation of peripheral skin circulation, and increase level of natural killer cells [16]. Xu et al. speculated the mechanism in their study that the physiologic effect of *Shirodhara* by dripping sesame oil on the forehead may induce somato-autonomic reflex through thermo sensors or pressure sensor in the skin or hair follicles via the trigeminal cranial nerve. This procedure produced a relaxed state that results in the maintenance of psycho-physiological balance [29]. The patient’s sleep came to normal. A study has been conducted by Akiko et al. to evaluate the effect of sesame oil *Shirodhara* (SOS) against warm water *Shirodhara* (WWS) on improving sleep quality and quality of life (QOL). In their study, it was found that SOS is a safe potential therapy to improve sleep quality and QOL in persons with sleep disorders [30]. However, the *Shirodhara* reduced daytime sleepiness [31].

To use of such biomarkers may help to establish the efficacy of the *Shirodhara* therapy on stress-induced diseases. This case study having encouraging results and it can give hope of ray for treatment strategy for many psychosomatic disorders, It is clear that working woman having adopted a child with a disability triggers the stress, and to overcome such conditions, more research is warranted.

## 5. Conclusion

*Shirodhara* showed significant improvement in serum biomarkers of stress, which are reduced after *Shirodhara*. It provided significant relief in the grading of the POMS Score on the 07th and 14th day of *Shirodhara*. It showed marked improvement in the positive domain of the POMS score and decreased the negative domain value in the POMS Score. There was a significant reduction in systolic and diastolic blood pressure after *Shirodhara*. It showed appropriate responsiveness to the stress system. This therapy found effective treatment in the management of stress.

### 5.1. Patient perspective

The patient told a good and regular sleep pattern after 5 days of *Shirodhara*. The patient felt marked improvement in memory. The

patient felt sleepy and a feeling of happiness after the *Shirodhara*, especially.

## 6. Informed consent

Being a single case study, there is no requirement of an ethical approval committee. Written informed consent from the patient was obtained to publish details of the case.

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None.

## Conflict of interest

None.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jaim.2021.01.008>.

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## Original Papers

# Psychoneuroimmunologic Effects of Ayurvedic Oil-Dripping Treatment

Kazuo Uebaba, M.D., Ph.D.,<sup>1,2</sup> Feng-Hao Xu, M.D.,<sup>1,2</sup> Hiroko Ogawa, M.S.,<sup>1,2</sup> Takashi Tatsuse, B.C.,<sup>3</sup>  
Bing-Hong Wang, Ph.D.,<sup>4</sup> Tatsuya Hisajima, Ph.D.,<sup>5</sup> and Sonia Venkatraman<sup>6</sup>

### Abstract

**Objective:** This study assessed the psychoneuroimmunologic changes achieved by *Shirodhara*, an Ayurvedic treatment, characterized by dripping oil on the forehead, in a randomized, controlled protocol involving a novel approach using a robotic system.

**Methods:** In the first experiment for the determination of the most appropriate conditions of *Shirodhara*, 16 healthy females (33 ± 9 years old) underwent a 30-minute treatment. In the second study, another 16 healthy females (39 ± 9 years old) were assigned to either the *Shirodhara* treatment or control supine position for 30 minutes, with monitoring of physiologic, biochemical, immunologic, and psychometric parameters including anxiety and altered states of consciousness (ASC).

**Results:** The subjects receiving *Shirodhara* treatment showed lowered levels of state anxiety and higher levels of ASC than those in the control position. Plasma noradrenaline and urinary serotonin excretion decreased significantly more after *Shirodhara* treatment than in the control. Plasma levels of thyrotropin-releasing hormone, dopamine, and natural killer (NK) cell activity were different between control and *Shirodhara* treatment. The correlation between anxiolysis and the depth of ASC was significant in the *Shirodhara* treatment group ( $r = 0.52$ ,  $p < 0.05$ ,  $N = 16$ ), while in the control no correlation was obtained ( $r = 0.13$ ,  $p = 0.64$ ,  $N = 16$ ). The increase in foot skin temperature after *Shirodhara* showed a significant correlation with anxiolysis and the depth of Trance of ASC ( $r = 0.58$ ,  $p < 0.01$ ,  $r = 0.43$ ,  $p < 0.01$ , respectively). NK cell activity after *Shirodhara* treatment showed a significant correlation with anxiolysis and the depth of Trance of ASC ( $r = 0.33$ ,  $p < 0.05$ ,  $r = 0.56$ ,  $p < 0.01$ , respectively).

**Conclusions:** These results indicate that *Shirodhara* has anxiolytic and ASC-inducing effects, and it promotes a decrease of noradrenaline and exhibits a sympatholytic effect, resulting in the activation of peripheral foot skin circulation and immunopotentialization.

### Introduction

**S***hirodhara*, one of the healing techniques of Ayurveda, is characterized by dripping oil on the forehead. Originating in ancient India, Ayurveda is a science of life that uses various oil treatments for the proper balance of bioenergies in the body including oil massage and oil-dripping treatment such as *Shirodhara*. In Sanskrit, *shiro* means “head,” and *dhara*

means “dripping.” This method was originated from Kerliya *Panchakarma*, and is one of the components of the systematic purification techniques of *Panchakarma*.<sup>1</sup> *Panchakarma* is the most famous purification system in Ayurveda. A.K. Sharma suggested that *Shirodhara* may alleviate headache, mental stress, insomnia, depression, motor neuron diseases, and several kinds of mental disorders, including schizophrenia.<sup>1</sup> Furthermore, he suggested that it may have an anti-analgesic

<sup>1</sup>Department of Presymptomatic Health Promotion, Institute of Natural Medicine, University of Toyama, Toyama, Japan.

<sup>2</sup>International Research Center for Traditional Medicine of Toyama Prefecture, Toyama, Japan.

<sup>3</sup>Department of Welfare Promotion and Epidemiology, University of Toyama, Toyama, Japan.

<sup>4</sup>Department of Public Health, Hiroshima University, Hiroshima, Japan.

<sup>5</sup>Faculty of Health Care, Department of Alternative Medicine, Teikyo Heisei University, Tokyo, Japan.

<sup>6</sup>Department of Clinical Psychology, University of Oregon, Oregon City, OR.

levels showed a significant difference. (4) *Changes of urinary serotonin.* Urinary serotonin excretion just after and 1 hour after finishing *Shirodhara* was decreased significantly more than in the control condition ( $p < 0.05$ ,  $N = 16$ , paired  $t$ -test, Fig. 7). (5) *Changes in NK cell activity and PMN/lymph ratio of peripheral blood.* NK cell activity decreased significantly in the control condition ( $p < 0.05$ ,  $N = 16$ , paired  $t$ -test, Fig. 8, right), while there were no changes in the *Shirodhara* group. However, there was no significant difference by two-way ANOVA. The PMN/lymphocyte ratio maintained the same levels in the control condition, while it decreased significantly on *Shirodhara* treatment ( $p < 0.05$ ,  $N = 16$ , paired  $t$ -test, Fig. 8, left). These changes were not significantly different by two-way ANOVA.

Comparison of the correlation between parameters in *Shirodhara* and control. (1) *Correlation between ASC and anxiolysis.* The correlations between ASC scores of all 10 domains and the anxiolytic effect were significantly higher in the Trance experience of *Shirodhara*, while there was no significant correlation in the control condition ( $r = 0.52$ ,  $p < 0.05$  Spearman's correlation coefficient, Table 4). Regression coefficients of the ASC score (Trance) and anxiolysis were significantly different between control and treatment groups on the assumption that ASC scores are parametric values ( $p < 0.05$ , ANCOVA, Table 4). (2) *Correlation between ASC or anxiolysis and skin temperature.* Anxiolysis (% reduction of state anxiety) and the increase of the skin temperature of dorsal aspect of the foot, not hand, were significantly correlated in *Shirodhara* ( $r = 0.58$ – $0.60$ ,  $p < 0.05$ ,  $N = 16$ , Pearson's correlation coefficient, Table 5). The correlation between the anxiolytic effect and increase in skin temperature was only significant in the foot skin. However, the regression coefficient between anxiolysis and the foot skin temperature increase was not significantly different ( $p > 0.05$ , ANCOVA, Table 4). An increase of the mean skin temperature of the foot in the latter half of *Shirodhara*, not in the control, was also correlated with the ASC score, especially in the Trance experience (Table 4). The regression coefficients of the ASC score (Trance) and foot skin temperature increase were significantly different ( $p < 0.01$ , ANCOVA, Table 4). (3) *Correlation between ASC or anxiolysis and NK cell activity after Shirodhara.* Anxiolysis and ASC, especially Trance experience, were well correlated with NK cell activity after *Shirodhara* ( $r = 0.33$ ,  $0.56$ ,  $p < 0.05$ , Table 4). The regression coefficients between the ASC score (Trance) or anxiolysis and NK cell activity were significantly different ( $p < 0.05$  in both, ANCOVA, Table 4). (4) *Correlation between ASC or anxiolysis and catecholamines, TRH, and urinary serotonin.* Tables 6a and 6b show the correlation between psychologic parameters and plasma catecholamine or urinary serotonin obtained by Spearman's method. In the control supine condition, not *Shirodhara*, scores of ASC such as Space and Cosmic Consciousness (C.C) (Table 1) were correlated with the TRH level ( $r = -0.53$ ,  $-0.50$ ,  $p < 0.05$ , respectively). The ASC score (Time) was correlated with the TRH level and TRH change ( $r = -0.56$ ,  $-0.71$ ,  $p < 0.05$ , respectively). However, only in the *Shirodhara* treatment was the average score of ASC and score of Speech negatively correlated with the plasma dopamine level and change of plasma dopamine ( $r = -0.53$ ,  $-0.70$ ,  $-0.50$ ,  $p < 0.05$ , respectively). Furthermore, the average ASC score, and scores of Speech and Concentration (Conc.) were

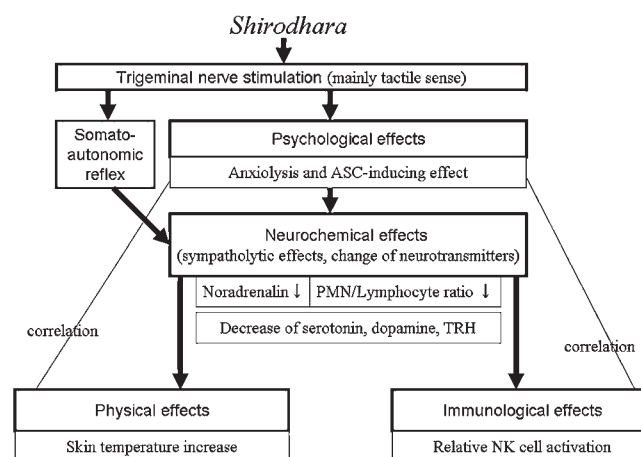
negatively correlated with the TRH-change ratio ( $r = -0.83$ ,  $-0.93$ ,  $-0.90$ ,  $p < 0.05$ , respectively). Scores of ASC for Time and Conc. were also negatively correlated with the TRH level ( $r = -0.50$ ,  $-0.52$ ,  $p < 0.05$ , respectively). In the control study, anxiolysis was negatively correlated with the plasma noradrenaline level ( $r = -0.58$ ,  $p < 0.05$ , Pearson's correlation coefficient). However, this correlation was not obtained on *Shirodhara* treatment. Plasma adrenaline level and change ratio of plasma adrenaline and noradrenaline were not correlated with any domains of ASC or anxiolysis either in the control or *Shirodhara* treatments.

The regression coefficients between ASC scores or anxiolysis and various parameters were not significantly different ( $p > 0.1$  in all, ANCOVA).

## Discussion and Conclusions

The robotic oil-drip system in this study facilitated a completely reproducible method for *Shirodhara*. The regulated modes of treatment were maintained for all subjects during *Shirodhara*. Differences in effects depending on the oil temperature, oil flow rate, and length of treatment were elucidated with this robotic system. This is the benefit of employing a robotic *Shirodhara* regulator compared to the usual hanging pot with a hole in the bottom, which is unable to provide the same regulated treatment to all subjects. We adopted the most comfortable and safest conditions of *Shirodhara* to study psychoimmunologic effects.

Psychologic changes in this study supported the anxiolytic and ASC-inducing effects of *Shirodhara*. The anxiolytic effect of *Panchakarma* reported by H.M. Sharma must be explained partly by this anxiolytic effect of *Shirodhara*. Anxiolysis induced by *Shirodhara* was positively correlated with NK cell activity after *Shirodhara* and elevation of the foot skin temperature. Furthermore, Trance experience induced by *Shi-*



**FIG. 9.** Suspended mechanism of the action of *Shirodhara*-induced psychologic effects as well as neural, immunological, and physical changes. An increase of the foot skin temperature and relative elevation of natural killer (NK) cell activity by *Shirodhara* treatment may be related with the autonomic nervous suppression secondarily induced by the psychologic effects of *Shirodhara*. ASC, state of consciousness; PMN, polymorphonuclear neutrophils; TRH, thyrotropin-releasing hormone.

*rodhara* was positively correlated with anxiolysis, NK cell activity, and elevation of the foot skin temperature. These results supported the psychoneuroimmunologic effects of *Shirodhara*.

The biochemical changes showed the significant suppression of noradrenaline not adrenaline, and suppression of urinary serotonin and the decrease of the PMN/lymphocyte ratio only in *Shirodhara*. These results reflect the sympatholytic effect of *Shirodhara*, especially suppression of the  $\alpha$ -receptor, which works with noradrenaline. Vaitl et al. reported that ASC induced a sympathetic suppression rather than parasympathetic activation.<sup>10</sup> ASC induced by *Shirodhara* may cause the same sympathetic nervous suppression. Irwin et al. reported that the sympathetic nervous system mediates the suppression of NK cytotoxicity.<sup>13</sup> An increase of the foot skin temperature and relative elevation of NK cell activity by *Shirodhara* treatment may be related with this sympathetic nervous suppression, secondarily induced by the psychologic effects or somato-autonomic nervous reflex<sup>14</sup> during *Shirodhara*.<sup>13,15</sup> The negative correlation of the TRH change or dopamine with some domains of ASC may also be related to the sympathetic suppression because the autonomic nervous system is linked to the depression of various neurotransmitter secretions such as TRH and dopamines.<sup>16</sup>

In our study, the anxiolysis and the mean skin temperature of the dorsal aspects of the feet, not hands, were correlated (Table 5). Although the same neural linkage between the central nervous system and hand or foot skin has been drawn, innervation by the autonomic nervous system of the hand may not be the same as in the foot. We obtained results whereby pressure stimulation of hands and feet for 15 minutes showed the opposite reaction to heart rate variability.<sup>17</sup> Further research is needed to elucidate hand-foot differences (Fig. 9).

Figure 9 summarizes the psychoneuroimmunologic changes in this study of *Shirodhara*. Warm, plain sesame oil starts the action from the tactile stimulation of the skin innervated by the first branch of the trigeminal nerve. It is possible that the impulses are transmitted to the thalamus through the principal nucleus and forwarded to the cerebral cortex. The impulses from the forehead cause a somato-autonomic reflex,<sup>14</sup> and changes in levels of various neurotransmitters including, serotonin, TRH, and catecholamine, resulting in sympathetic suppression and physioimmunologic changes of peripheral circulation and NK cell activity. It is worth doing further investigation to elucidate the effects of *Shirodhara* or *Panchakarma* of Ayurveda.

### Disclosure Statement

This research did not involve competing financial interests.

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Address reprint requests to:

Kazuo Uebaba, M.D., Ph.D.

International Research Center for Traditional Medicine  
of Toyama Prefecture  
151 Tomosugi  
Toyama, Toyama Prefecture, 939-8224  
Japan

E-mail: uebaba@inm.u-toyama.ac.jp



Research Article

CLINICAL STUDY ON EFFECT OF DIFFERENT METHODS OF *SHIRODHARA* IN PATIENTS OF INSOMNIA

Vasant Patil<sup>1\*</sup>, Yogesh Godkar<sup>2</sup>, Sanjay Gupta<sup>3</sup>, K.C. Das<sup>4</sup>, D.B. Kendadamath<sup>5</sup>

<sup>1</sup>Professor, Dept. of PG Studies in Panchakarma, SSRAMC, Inchal, Karnataka, India.

<sup>2</sup>Consulting Ayurveda Physician, Savantwadi, Maharashtra, India.

<sup>3</sup>Associate Professor, Dept. of Panchkarma, Rishikul Campus, Haridwar, Uttarakhand Ayurved University, India.

<sup>4</sup>Principal, SVMAMC, Ilkal, Karnataka, India.

<sup>5</sup>Lecturer, Govt. Ayurveda Medical College, Mysore, Karnataka, India.

ABSTRACT

**Background:** Insomnia has a great impact on social, occupational and other functioning areas of the individual. The modern medical science is still not having a definitive and effective treatment for this disease. *Shirodhara* is considered as the highly effective treatment for this condition. Most practitioners practising oscillatory method of *Shirodhara*, Some advises to do single point *Shirodhara*. Interestingly there is no research has been done on this topic to find out which method is best and standard. **Aims:** To compare the efficacy of single point drip method *Jaladhara* and Oscillatory drip method *Jaladhara* in *Nidranasha*. **Methods and Materials:** Study was conducted in 30 diagnosed patient of *Nidranasha* with the help of symptoms of *Nidranasha* and Athens insomnia scale. The patients were randomly divided into 2 groups. i.e., Group A and Group B to compare the effect of Single point drip method and oscillatory drip method in Insomnia. **Results:** Group A (Single point drip method *Shirodhara*) provided better relief compared to Group B (Oscillatory drip method *Shirodhara*) clinically in subjective parameters Total sleep duration (48.3%), overall quality of sleep (48.3%) and Statistically provided moderately significant improvement in Functioning (physical and mental) and highly significant improvement in systolic blood pressure. **Conclusion:** Single point drip method *Shirodhara* compared to Oscillatory drip method *Shirodhara* provided better relief clinically and statistically.

**KEYWORDS:** Insomnia, *Nidranasha*, Oscillatory drip, *Panchakarma*, *Shirodhara*, Single point drip.

INTRODUCTION

*Panchakarma* becoming the fastest growing specialty discipline of Ayurveda because of its efficacy and long lasting effect. The globalization of *Panchakarma* posed issues related to efficacy, safety and standardization of procedure. There is an urgent need of standardizing the *Panchakarma* procedures in course and assessment. The dosage schedule, exact procedure, medicament, effect and side effects are to be standardized, so that an uniform schedule of practice may be developed to be practiced at all centers.<sup>[1]</sup>

*Shirodhara* is practiced mainly in psychiatric and psychosomatic disorder. In current practice different methods of *Shirodhara* are practised procedure exists. Most practitioners practising oscillatory method of *Shirodhara*, some advises to do head massage during *Shirodhara*. Some advises to do single point *Shirodhara*. Interestingly there is no research has been done on this topic to find out which method is best and standard. Hence, in this study an attempt will be made to compare different methods of *Shirodhara* and finally come to a conclusion, which method is best and standard.

Insomnia is the complaint of inadequate sleep; it can be classified according to the nature of sleep disruption and the duration of the complaint.<sup>[2]</sup> In present era due to stress of day to day life, environmental factors,

over using of drugs (like fluoroquinolone, antibiotics, etc), several diseases, life style, diet pattern, human race is now facing many difficulties in maintaining natural sleep pattern.<sup>[3]</sup> Hence, substantial number of people suffer from insomnia, the most common sleep disorder. People with insomnia may have trouble concentrating, remembering or accomplishing daily tasks.<sup>[4]</sup> They also have a relatively high risk of accidents.<sup>[5]</sup> The economic consequences include the costs of increased use of health care services, work absences, and work related injuries.<sup>[6]</sup>

Application of liquid medicines by pouring continuously on any part of the body for a prescribed time is called *Seka* or *Dhara* and on head it is called *SiroDhara*. It is highly beneficial in stress and psychosomatic disorder such as IBS (Irritable Bowel Syndrome), neurological disorder (headache, epilepsy, etc. Psychiatric disorder (psychosis, neurosis insomnia etc.), convulsive disorder and also in psoriasis, eczema, hypertension and alcoholism.<sup>[7]</sup>

The main aim of this study is to evaluate the procedural effect of *Shirodhara* and hence water is selected for this study to exclude the medicinal effect of drug used for *Shirodhara*.

absorbed, producing Tranquilizing effect by reaching the Brain cortex. The chemical constituent of medicated oil may act as a neurotransmitter 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. *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. 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. 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.<sup>[12]</sup>

#### CONCLUSION

Group A (Single point drip method *Shirodhara*) compared to Group B (Oscillatory drip method *Shirodhara*) provided better relief clinically in subjective parameters total sleep duration (48.3%), overall quality of sleep (48.3%) and Statistically provided moderately significant improvement in Functioning (physical and mental) and highly significant improvement in systolic blood pressure.

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#### \*Address for correspondence

##### Dr Vasant Patil

Professor,  
Dept. of PG Studies in  
Panchakarma, SSRAMC, Inchal,  
Karnataka, India.  
Email: [ayurvasant@gmail.com](mailto:ayurvasant@gmail.com)