

MANAGEMENT OF NIDRANASHA WITH SHIRODHARA OF BALASHWAGANDHADI TAILA- A PILOT STUDY

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ABSTRACT

Background: Ayurveda identified three key elements for maintaining health as *Ahara* (food), *Nidra* (sleep), and *Brahmacharya* (celibacy). *Nidra* is one of the states that replenish the energy we use up in daily activity. The illness *Nidranasha* is steadily becoming more prevalent in society and has emerged as a major issue. A warm bath, oil massages, especially on the head, floral-scented perfumes, relaxing music, *Abhyanga*, *Padabhyanga* and *Shirodhara* are few of the treatment modalities explained in Ayurveda for the management of *Nidranasha*. *Shirodhara* is popularly used in treating headaches, nervous system disorders, stress, sleeplessness, and hypertension. It improves blood flow to the brain, which combats insomnia and relaxes the body and mind. 10 patients of clinically diagnosed case of *Nidranash* (Primary insomnia) were included in the study. *Shirodhara* of

Balashwagandhadi Taila was given for 8 days 800ml-1000ml oil used in each sitting. Follow up was taken on 8th day. The thorough Performa used for the assessment was used to score both subjective and objective factors, and the results were then statistically analyzed. To determine the statistical significance of the data gathered, the results were then examined using the paired t test. A highly significant result was obtained in all the subjective and objective parameters after use of *Shirodhara* of *Balashwagandhadi Taila* for 8 days.

According to the findings of the aforementioned clinical investigation, *Shirodhara* with *Balashwagandhi Tail* is found to be particularly effective in the management of primary insomnia (*Nidranasha*).

KEYWORDS: *Nidra*, *Nidranasha*, *Shirodhara*, *Balashwagandhi Taila*.

1. INTRODUCTION

The science of life known as Ayurveda contains numerous *Siddhants* (principles) that must be followed in order to live a good life. The three components are one of the most crucial ideas. That is *Aahara*, *Nidra*, and *Brahmacharya*; mentioned as the three *Upastambhas*.^[1] According to Acharya Charak, obtaining enough sleep at the right times promotes happiness, nourishment, strength, virility, wisdom, longevity, and maintenance of life.^[2] In addition, Acharya Kashyapa emphasized the value of *Nidra*, saying that a healthy man is one who sleeps well and at the appropriate times.^[3] According to Yogratanakara, a person who is getting quality sleep is less likely to contract illnesses. He'll live a long, healthy, and vibrant life. According to Acharya Sushruta, a person who gets enough sleep at the right times won't become sick and would have a serene mind. They become stronger, have good skin, decent virility, a beautiful body, aren't too skinny or overweight, and live well past 100.^[4]

The symptoms of *Nidranasha*, according to Acharya Vagbhat, include body aches, a heavy head, yawning, tiredness, giddiness, indigestion, drowsiness, etc. *Vataj Lakshanata* takes place.^[5]

According to Acharya Charak and Sushruta, people who disregard the consequences and stay awake experience yawning, body aches, lethargy, and headaches are the symptoms of *Nidranasha*.

Poor sleep can increase the chance of acquiring obesity, diabetes, high blood pressure, or heart disease, according to studies. According to a WHO poll performed in India, 35% of respondents said they had mild to extremely difficult time falling asleep.^[6]

Definition of *nidra*^[7]

Acharya Charak and commentators Chakrapani and Gangadhar indicated that person experiences sleep when their mind, soul, and sensory and motor organs become worn out or inactive (*Nidra*).

Mechanism of sleep

The brain's sleep-inducing centers are active during sleep, which is why it happens. Insomnia or chronic alertness is symptoms of damage to these sleep centers.^[8] *Nidra* has been since the universe's creation and is a result of and characterized by *Tamoguna*. Sleep naturally happens at night since *Tamas* is more common then. When weariness and *Kapha Dosha* fill *Srotasa* (circulatory channels), *Indriyas* (sensing organs) get clogged and withdraw from their respective functions. This leads to the manifestation of sleep in individuals.^[9]

Chikitsa

The *Nidranasha* therapy regimen has been outlined in Ayurveda. According to Ayurveda, eating domestic and aquatic animal flesh, buffalo meat and milk, wheat, black gramme, milk products like curd, and ghee can all help to relieve sleeplessness. *Nidranasha* also makes mention of grapefruits, sugar and jaggery syrups, and wine. A warm bath, oil massages, especially on the head, floral-scented perfumes, and relaxing music can all help you go asleep. Additionally, *Abhyanga* and *Padabhyanga* ought to be practiced.

Daytime sleep as compensation

Diseases brought on by lack of sleep won't harm someone who has developed a habit of sleeping throughout the day or at night.^[10] In accordance with Ayurveda, a person who was awake all night long can make up for it by sleeping for only half as long in the morning.^[11]

Shirodhara

Shirodhara is a form of Panchakarma therapy that is believed to be helpful in the management of stress, anxiety, and insomnia as well as to relax the nervous system. 20 The term “*Shirodhara*” originates from the Sanskrit word for “head” – “*Shiro*”; and the word for “flow” – “*Dhara*”. *Shirodhara* procedure involves methodical dripping of a warm liquid such as herbal oil or decoction on to the centre of the forehead for a certain period of time.^[12]

Not only in India, but *Shirodhara* has been shown to be effective in treating insomnia in several research conducted in India and the United States of America (*Anidra*).^[13,14,15] According to a Japanese study, sesame oil *Shirodhara* improved the quality of sleep among participants who said they had trouble falling or staying asleep more than warm water *Shirodhara*.^[16] *Shirodhara* is a technique that falls under the category of external oil treatment used for neuromuscular feeding and relaxation. *Shirodhara* is a form of relaxation therapy that calms the agitated *Vata Dosha* in the head and reduces mental weariness.

Moreover, classically the ingredients of *Balashwagandhadi Taila* have *Vata* pacifying, *Balya* (strengthening), *Bruhana* (tissue nourishing), and *Rasayana* (rejuvenating) properties.^[17,18,19] Thus the study was undertaken to study the role and efficacy of *Shirodhara* with *Balashwagandhadi Tail* in management of *Nidranasha*.

2. MATERIAL AND METHOD

Patient selection

Inclusion criteria- 10 patients of clinically diagnosed case of *Nidranash* (Primary insomnia) were included in the study. The procedure of *Shirodhara* was explained to each patient and informed written consent was obtained from each patient.

Exclusion criteria- *Nidranasha* due to conditions like *Madatyaya* and *Abhigata*. *Nidranasha* associated with lactating mothers, pregnant woman, patient below 20 and above 60 years.

Study design

Procedure	Drug Used	Time	Quantity
<i>Shirodhara</i>	<i>Balashwagandhadi Tail</i>	Morning time of day	8 days- 800ml- 1000ml oil used in each sitting

The details of the procedure done

<i>Purvakarma</i>	Advised patient to get relax and lie down in supine position.
<i>Pradhana Karma</i>	<i>Shirodhara</i> with <i>Balashwagandhadi Tail</i> -800 ml – Duration- 8 days starting with 20 min gradually increasing the duration by 5 min daily.
<i>Paschat Karma</i>	<i>Shirodhawan</i> (Hair wash) with warm <i>Amalaki Kwatha</i> and <i>Rasnadi Churna</i>

Follow up- on 8th day

Assessment criteria: Assessment of the condition was done based on the detailed performance adopting Standard method of scoring of subjective and objective parameters which was then analyzed statistically.

Table No. 1: Subjective parameters.

Sr. no.		Score 0 No. Complaints	Score 1 Occasionally Present	Score 2 Very Often Present	Score 3 Always Present
1	<i>Angamarda</i>				
2	<i>Shirogaurav</i>				
3	<i>Jrumbha</i>				

4	Jadya				
5	Glani				
6	Bhrama				
7	Apakti				

Table No. 2: Objective parameters: According to Athens Insomnia Scale (AIS)^[20]

Sr. no.	Sleep Factors	Score0	Score1	Score2	Score3
1	Sleep induction	No problem	Slightly delayed	Markedly delayed	Very delayed or did Not sleep at all
2	Awakening During the night	No problem	Minor problem	Considerable problem	Serious problem or didn't sleep at all
3	Final awakening	Not earlier	A little earlier	Markedly earlier	Much earlier or did Not sleep at all
4	Total sleep duration	Sufficient	Slightly insufficient	Markedly insufficient	Very insufficient or Did not sleep at all
5	Sleep quality Very	Satisfactory	Slightly unsatisfactory	Markedly unsatisfactory	Un-satisfactory or Did not sleep at all
6	Wellbeing During day	Normal	Slightly decreased	Markedly decreased	Very decreased
7	Functioning capacity during Day.	Normal	Slightly decreased	Decreased Markedly	Very decreased
8	Sleepiness During day	None	Mild	Considerable	Mild Intense

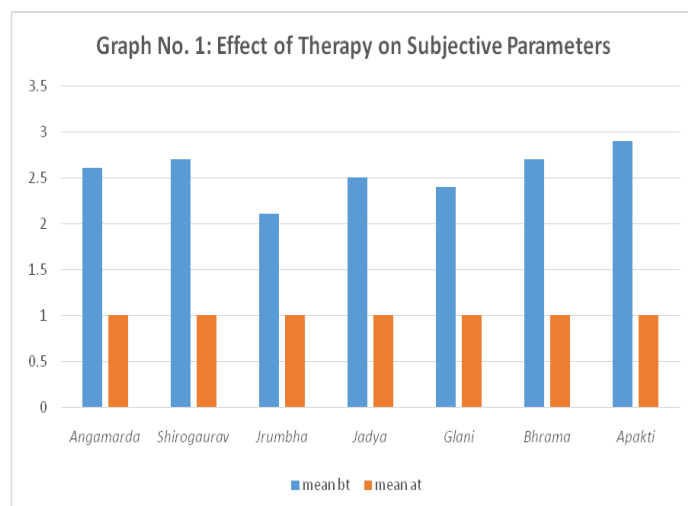
3. OBSERVATION AND RESULT

Total 10 patients were registered in the study. Among them, 50 % patient registered for the study was male while 50% were female.

After following the treatment protocol, the data was collected. The result was then analyzed by applying paired t test to know the statistical significance of the collected data. The result is as shown in the table below.

Table No. 3: Effect of therapy on subjective parameters.

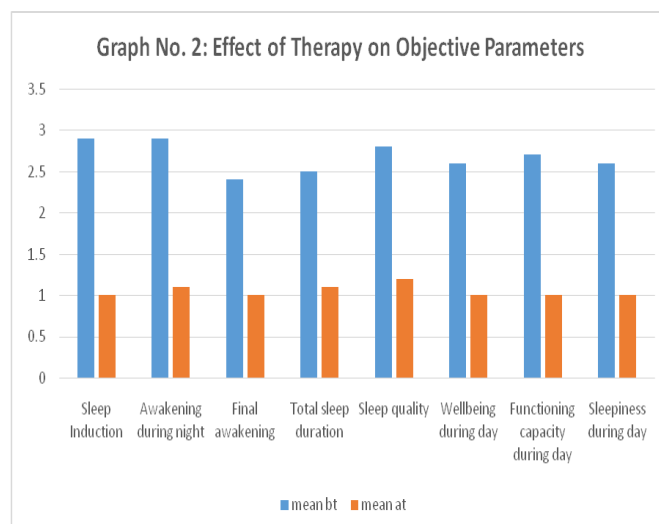
Subjective parameters	mean bt	mean at	%d	sd	Se	t value	p value	S
Angamarda	2.6	1	60	0.49	0.15	1.08	<0.001	HS
Shirogaurav	2.7	1	61.67	0.46	0.14	1.24	<0.001	HS
Jrumbha	2.1	1	51.67	0.3	0.09	1.22	<0.001	HS
Jadya	2.5	1	55	0.67	0.21	0.75	<0.001	HS
Glani	2.4	1	56.67	0.49	0.15	0.95	<0.001	HS
Bhrama	2.7	1	61.67	0.46	0.14	1.24	<0.001	HS
Apakti	2.9	1	66.67	0.3	0.09	2.11	<0.001	HS



Effect of therapy on subjective parameters after applying paired t test showed statistically highly significant result in all the parameters.

Table No. 4: Effect of therapy on objective parameters.

Objective parameters	mean bt	mean at	%d	sd	Se	t value	p value	S
Sleep Induction	2.9	1	65	0.3	0.09	2.11	<0.001	HS
Awakening during night	2.9	1.1	61.47	0.4	0.13	1.5	<0.001	HS
Final awakening	2.4	1	56.67	0.49	0.15	0.95	<0.001	HS
Total sleep duration	2.5	1.1	55	0.49	0.15	0.95	<0.001	HS
Sleep quality	2.8	1.2	56.67	0.49	0.15	1.08	<0.001	HS
Wellbeing during day	2.6	1	60	0.49	0.15	1.08	<0.001	HS
Functioning capacity during day	2.7	1	61.67	0.46	0.14	1.23	<0.001	HS
Sleepiness during day	2.6	1	60	149	0.15	1.08	<0.001	HS



Effect of therapy on objective parameters after applying paired t test showed statistically highly significant result in all the parameters.

4. DISCUSSION

An aggravated state condition of the bodily *Vata* and *Pitta*, an aggravated state of mind, loss of vital fluid and hurt or an injury may bring on insomnia. Indulgence in causative factors causes *Kapha Dosha Kshaya* and *Vruddhi* of *Vata Dosha*. The causative factors also lead to *Rajo Guna Vruddhi* which subdues the effect of *Tamas*. These vitiated *Dosha* shampers the normal sleep, leading to a pathological one.^[21]

Probable mode of action of *shirodhara*

Shirodhara produce a constant pressure and vibration which is amplified by hollow sinus present in frontal bone.^[22] The vibration is then transmitted inwards through the fluid medium of cerebrospinal fluid (CSF). This vibration along with little temperature may activate the functions of thalamus and the basal forebrain which then brings the amount of serotonin and catecholamine to the normal stage. Pressure also has an effect on impulse conduction. If prolonged pressure is applied to a nerve, impulse conduction is interrupted and part of body relaxes. Medicated oil poured on fore-head may be absorbed, producing Tranquilizing effect by reaching the brain cortex. The chemical constituent of medicated oil may act as a neurotransmitter as deficiency of certain Neurotransmitter can be checked hypothetically if oil percolation 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.^[23] *Shirodhara* may also act on the adrenergic neuron probably produce their effects by neither modifying the synthesis storage

and uptake mechanisms of nor adrenaline. 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 mono aminergic, neurotransmitter neurons which arise in the mid brain. These release Dopamine, nor adrenaline and Serotonin.^[24] 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 behavioral 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.

4.1 Probable mode of action of *balashwagandhadi tail*

Balashwagandhadi Tail is used for all *Vata Disorders*; it strengthens the muscles and improves the quality of blood. *Sida cordifolia* is a major component of the oil which is used to soothe and rejuvenate nerves, relieving burning sensation, and neuropathy to improve the tensile strength of nerves and blood vessels. *Withania somnifera* relieves the inflammation strengthens the muscles and improves blood circulation.^[25] *Laksha* in the oil strengthens the bones and ligaments. *Devadaru*, *Kushta*, *Rasna* and other few drugs in the combination relieves pain, swelling.^[26] Licorice, sarsaparilla, vetiver are having relaxing and soothing effect in the brain and helps to relive damage of vessels, nerves and joints.

CONCLUSION

Nidranasha condition is mainly due to vitiation of *Vata* and *Pitta* with *Rakta* as *Dushya* involved. As per the results obtained from the above clinical trial, it can be concluded that *Shirodhara* with *Balashwagandhi Tail* is very effective in the management of primary insomnia (*Nidranasha*).

Declaration of patient consent: The authors declare that they have obtained consent from the patient for publication of clinical information blinding the identity of individuals.

Conflict of interest: Nil.

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REFERENCES

1. Charak samhita sutra sthan by Dr. Brahmanand Tripathi Varanasi Choukhamba Publication Edition, 2009; 11: 238.
2. Charak samhita sutra sthan by Dr. Brahmanand Tripathi Varanasi Choukhamba Publication Edition, 2009; 11: 238.
3. Kashyapa Samhita Khila sthan P.V. Tiwari Varanasi Choukhamba Publication, 2008.
4. Sushrut samhita sutra sthan by Kaviraj Dr. Ambikadatta Shatri Varanasi Choukhamba Publication, 2018.
5. Charak samhita sutra sthan by Dr. Brahmanand Tripathi Varanasi Choukhamba Publication Edition, 2009; 11: 238.
6. Charak samhita sutra sthan by Dr. Brahmanand Tripathi Varanasi Choukhamba Publication Edition, 2009; 11: 238.
7. Charak samhita sutra sthan by Dr. Brahmanand Tripathi Varanasi Choukhamba Publication Edition, 2009; 11: 238.
8. K Sembulingam, Prema Sembulingam, Essentials of Medical Physiology, Jaypee Brothers Medical Publishers (P) Ltd. New Delhi, Edition: third, 872, 764.
9. Vriddha Vagbhata Ashtangasangraha with Sasilekha commentary by Indu; Chaukhambha Sanskrit series, Varanasi; Edition: Reprint, Year, 2005; 92.
10. Acharya Sushruta-SushrutaSamhita with Nibandhasangraha commentary of Sri Dalhanacharya and the Nayachandrika Panjika of Sri Gayadasacharya on NidanaSthana edited by Vaidya Yadavji Trikamji Acharya from the beginning to the Adhayaya of Chikitsa Sthana and rest by Narayan Ram Acharya 'Kavyatirtha', Published by Chaukamba Suarbharti Prakashan, Varanasi, UP, Reprint, 2008; 9: 824 - 359.
11. Acharya Vagbhata, AshtangaHridaya with commentaries-Sarvangasundara of Arunadatta and Ayurvedarasayana of Hemadri; Annotated by: Dr. Anna Moreshwar Kunte and Krishna Ramachandra Shastri Navre; Edited by: Pt. Hari Sadasiva Sastri Paradakara Bhishagacharya; Chaukamba Subharati Prakashan, Varanasi; Edition: Reprint, Year, 2010; 956: 143.
12. Dhuri K, Vaidya A, Bodhe P. Shirodhara : A psycho-physiological profile in healthy volunteers. J Ayurveda Integr Med, 2013.
13. Vinjamury SP, Vinjamury M, Der Martirosian C, Miller J. Ayurvedic therapy (Shirodhara) for Insomnia: A Case Series. Glob Adv Heal Med, 2014.
14. Pokharel S, Sharma A. Evaluation of Insomrid tablet and Shirodhara in the management of Anidra (Insomnia). AYU (An Int Q J Res Ayurveda), 2010.

15. Ashish G, Kiran T, kalpana N, Manisha D. Godugdha shirodhara: A non pharmacological treatment of nidranash (insomnia). *Int J Res Ayurveda Pharm*, 2013.
16. Tokinobu A, Yorifuji T, Tsuda T, Doi H. Effects of Ayurvedic Oil-Dripping Treatment with Sesame Oil vs. with Warm Water on Sleep: A Randomized Single-Blinded Crossover Pilot Study. *J Altern Complement Med*, 2016.
17. Sharma PV. *Dravyaguna vijnana (vegetable drugs) (hindi)*. Varanasi, Uttar Pradesh, India: Chaukhambha Bharati Academy, 2001; 2.
18. Misra B, Vaisya R. *Bhavaprakasa of shri bhava misra (including bhavaprakasa nighantu portion) - edited with the 'vidyotini' hindi commentary, notes and appendix - first part*. Varanasi, Uttar Pradesh, India: Chaukhambha Sanskrit Bhawan, 2013.
19. Sastry JLN. *Illustrated dravyaguna vijnana (study of the essential medicinal plants in Ayurveda)*. Varanasi, Uttar Pradesh, India: Chaukhambha Orientalia, 2017; 2.
20. Soldatos CR, Dikeos DG, Paparrigopoulos TJ. The diagnostic validity of the Athens Insomnia Scale. *Journal of psychosomatic research*, 2003; 1: 55(3): 263-7.
21. Rathod S, Mishra B. Nidranash (insomnia) and its Ayurvedic management review. *Journal of Ayurveda and Integrated Medical Sciences*, 2021; 6(6): 215-9.
22. Divya K, Tripathi JS, Tiwari SK. An appraisal of the mechanism of action of shirodhara. *Annals of Ayurvedic Medicine*, 2013; 2(3).
23. Divya K, Tripathi JS, Tiwari SK. An appraisal of the mechanism of action of shirodhara. *Annals of Ayurvedic Medicine*, 2013; 2(3).
24. Tomar K. *ROLE OF SHIRODHARA IN SHIRASHOOLA ACCORDING TO AYURVEDA*.
25. Pandey K, Arora M, Chawla S. Recent Perspectives on 15 the Medicinal Potential of Plant-Based Adaptogens.
26. Harisha HM, Dandagi SL, Rakesh HR. *An International Journal of Research in AYUSH and Allied Systems*.