

A CLINICAL STUDY TO EVALUATE THE EFFICACY OF SHIROMARDANA WITH KSHEERABALA TAILA IN THE MANAGEMENT OF NIDRANASHA

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ABSTRACT

Nidra is also important as Ahara. In Ayurveda Nidra is one of the important Trayopasthamba which sustain life. Getting Nidra at the right time supports wellbeing and good quality of life. Proper Nidra protects growth and development of body i.e, Dhatu Pushti. Now-a-days due to sedentary lifestyle, one gives least importance to the timing, duration and quality of sleep along with stress plays an important role in inducing insomnia, which leads to Vata Prakopa and decrease of Kapha and Tama. Recent studies have shown that about 40% of women and 30% of men are suffering from insomnia. If the condition is left untreated it may reduce the efficiency and mental

capacity and may drag the individual towards several psycho-somatic disorders. Holistic management of Nidranasha is of utmost importance. Multiple possibilities and management protocols are well defined in Ayurveda classics, where Mardana is considered as one of the Vatahara Chikitsa. Shri Malladihalli Raghavendra Swami opines that Taranga Hasta, Dwihasta, Tadana, Anguli Kreedana Hasta, Mruduanguili Tadana Hasta, Mrudumusti tadana, Gharshana hasta and Ghatitha hasta, done on scalp are helpful in Anidra. In Sahasrayoga Ksheerbala taila mentioned as an excellent remedy for all the 80 Vata Rogas. So there in this study an attempt is made to evaluate the efficacy of Shiromardana using Hastas with Ksheerbala Taila in the management of Nidranasha.

KEYWORDS: Nidranasha, Shiromardhana Hastas, Ksheerabala taila.

INTRODUCTION

Nidranasha is one such disorder which affects the daily routine and quality of life. Acharya Charaka has mentioned Nidra as one among the Trayopastambha^[1] which is an essential factor to lead a healthy life. In this fast paced life of modern industrialized era, Nidra was the most neglected among Trayopastambha. Further Acharya Charaka mentions Sukha, Dukha, Pushti, Karshya, Bala, Dourbalya, Purushatva, Klaibyata, Jnaana, Ajnaana, Jeevitha and Mrityu all are depended on proper and improper Sleep.^[2] It is characterized by Angamarda, Shiro Gourava, Jrumba, Jadya, Glani, Bhrama, Tandra, and Apakti.^[3]

In modern parlance it simulates Insomnia which is characterized with difficulty in initiating or maintaining sleep, waking up too early and unable to sleep again, or waking up with a feeling of lassitude and lethargy. Insomnia is normally treated with anti-depressants, sedatives, tranquilizers and hypnotics, but it has its own limitations.

Abhyanga done with more pressure is termed as 'Mardana'. Mardana is a variant of massaging techniques used in traditional practice. Acharya Nripamadanapala explains the importance of Mardana in Madanapala Nighantu. He opines that Mardana is Shramaghna, Vataghna, Nidraprada, Pushtiprada and Balaprada in nature. Mardana is indicated as one of the Ritucharya in Hemanta Ritu and Vasanta Ritu. Mardana is also mentioned as one of the Sadvritta in our classics.

'Angamardhana' a Kannada book written by Sri Sri Malladihalli Raghavendra Swami in the name of Tiruka, explains the method of ShiroMardana done by using specific techniques in nidranasha.^[4] The technique is termed as 'Hastha'. He explains about 26 Hasthas to perform Mardana over whole body. There are 5 types of Angamardana, where as Tailangamardana is one of the types and is done by anointing oil with pressure.

The Hasthas which are mentioned for Shiro mardana are; Taranga Hastha, Anguli Kreedana Hastha, Mridwanguli Tadana Hastha, Dwihastha Tadana, Mrudu Mushtitadana Hasta, Gharshana Hastha, Ghatitha Hastha. Shri Malladihalli Raghavendra Swami opines that these hastas are helpful to induce good sleep. Hence, here an attempt is made to evaluate efficacy of shiromardana in Nidranasha by using hastas with Ksheerabala Taila.^[5] Which is explained in Ashtanga Hridaya and Sahasrayoga is an excellent remedy for all the 80 Vataja nanatmaja

vikaras and it is nidrajanaka.

AIMS AND OBJECTIVES

- To study about Nidranasha in detail:
- To study Shiromardana in detail.
- To evaluate the efficacy of Shiromardana with Ksheerbala Taila in Nidranasha.

MATERIALS AND METHODS

(a) Sample source: Patients having Nidranasha were selected from O.P.D and I.P.D of Panchakarma and Kayachikitsa departments and also from mobile camps of K.V.G. Ayurveda Medical College and Hospital, Sullia on the basis of inclusion and exclusion criteria.

(b) Drug source: Raw drugs was collected from local areas and markets after proper identification and prepared Ksheerbala Taila in K.V.G. Ayurveda Pharmacy, Sullia.

Table No. 1: Showing the ingredients of ksheerbala taila.

Sr. no.	Ingredients	Quantity
1	Tila Taila	12 liters
2	Kalka dravya Balamoola Kalka	3 Kg
3	Kashaya dravya Ksheera Balamoola kwatha	24 liters 24 liters

Selection criteria

Inclusion criteria

1. Patients with symptoms of Nidra Nasha.
2. Patients of both genders who are abhyanga Yogya according to Ayurveda classics, irrespective of occupation and socio economic status.
3. Patients in between 20 years and 70 years of age.

Exclusion criteria

1. Nidra Nasha due to other conditions like Madatyaya & Abhigatha.
2. Patients who are Ayogya for mardhana^[6] according to Ayurveda classics.
3. Patients suffering from other systemic illnesses and on any other medications.
4. Patients below the age of 20 years and above 70 years.
5. Pregnant Woman and Lactating Mothers.

6. Severe Psychological Disorders.

Diagnostic criteria

The diagnosis is based on the signs and symptoms occurring as complications of Nidranashasuch as Angamarda, Shirogaurava, Jadya, Glani, Jrumba, Bhrama and Apakti.

Based on the ICD 10 criteria for insomnia, which are as follows;

If the complaint is either difficulty in falling asleep or maintaining sleep or of poor quality of sleep.

If the sleep disturbance has occurred at least three times per week for at least once a month.

If the unsatisfactory quality of sleep either causes marked distress or interferes with social and occupational functioning.

Treatment protocol

30 patients fulfilling the inclusion criteria were randomly selected and Shiromardhana with Ksheerabala Taila for seven days was done and Follow up of 14 days with total study duration of 21 days.

Method of shiromardhana

Requirements: Comfortable knee height chair, Bowl, Ksheerabala Taila and Water bath for heating oil.

Procedure of shiro mardana

1) Purvakarma

- a) Sambara Sangraha (Collection of materials): Materials required for Mardana like vessel for heating oil, water bath, Ksheerabala taila etc are collected and prepared for procedure.
- b) Evaluation of the subject: Parameters like Vitals and other general examinations etc. were evaluated.
- c) Preparation of the subject: Subject was asked to sit comfortably on the chair.
- d) Preparation of medicine: Ksheerabala taila for Mardhana was made lukewarm in water bath.

Pradhana karma

- Ksheerabala taila with optimum temperature i.e 52°C-60°C on average as comfortability of the patient is applied over the scalp.

- The different Hastha mentioned in Angamardana specifically advocated for nidranasha are carried out^[7] for 35 min. They are
1. **Taranga hasta:** Gentle strokes are placed on the head of the patient by rapid rocking movements of both the palms simultaneously. While placing the strokes only the base of the little finger and thumb comes in contact with the head.
 2. **Anguli kridana hasta:** Gentle strokes are placed on the subject's head by making rocking movements of both palms with fingers stretched. While stroking only the palmer aspect of the little finger and thumb will touch the scalp.
 3. **Mrdvanguli tadana hasta:** Fingers of both the hands are moved as if picking up tuft of hair. This massage should be gentle producing mild traction effect on the hair.
 4. **Dvihasta tadana:** Gentle strokes are placed with the palmer surface on the scalp by both hands either simultaneously or alternatively. Strokes are placed on the vertex, occipital and temporal region.
 5. **Garshana hasta:** After smearing the oil to the hair roots and entire scalp, the whole head is massaged with the palmer surface of the hand from before backwards applying gentle and firm pressure and producing friction with the hand. Care should be taken not to exert more pressure and tangle the hair during the procedure. Mainly done over the head, provides lightness to the head and creates enthusiasm.
 6. **Ghatita hasta:** In this the entire palmar aspect of the hand along with fingers should come in contact with the head and cover the scalp. Gentle and firm pressure is exerted over the head. Likewise the entire head is pressed in all directions. Helps in relieving headache, heaviness and pain in the head.
 7. **Mrudu mushtitadana hasta:** This is also done over the back region. Here the strokes are placed with semi closed fists. The strokes should be light as that of the lotus flower touch and not hard strokes. Provides strength to the spine and relaxing effect.



Gharshana hasta



Mridvanguli tadana



Dvihasta tadana



Figure no. 1: Different hastas of shiromardhana.

Paschat karma

- Subjects were advised to take hot water bath immediately and are asked to take rest.

Duration: ShiroMardana was carried out For 35 mins for 7 days.

Pathya during treatment Period & Pariharakala

Patient was advised to stay in a room devoid of breeze or dust. A light meal and lukewarm water were advised. Patients were also advised to avoid dust, smoke, Exposure to sunlight, anger, riding vehicles, excessive intake of fat and liquid diet, day sleeping and should not use cold water for any purpose like Pana, Snana, etc.

Follow up study

The patient was asked to follow a Pariharakala of 14 days and was asked to report on 21st day counting from the day the treatment schedule started. On the 21st day the final assessment readings were taken for the Statistical study.

Assessment criteria

Assessment of the condition was done based on the detailed Performa adopting standard method of scoring of subjective and objective parameters which was analysed statistically.

Subjective criteria

- a) Angamarda
- b) Shirogaurava
- c) Jrumba
- d) Jadya
- e) Glani
- f) Bhrama
- g) Apakti

Objective Criteria: Inscoring the PSQI, seven component scores are derived, each item is scored from 0 (no difficulty) to 3 (severe difficulty). The component scores are summed to produce a global score (range 0 to 21). Higher scores indicate worse sleep quality.

Interpretation of scores:

0–7 - No clinically significant Insomnia.

8–14 - Sub threshold Insomnia.

15–21 - Clinical Insomnia of moderate severity

21–28 - Severe clinical Insomnia.

Global PSQI Score:

Sum of seven component scores: Assessments of the condition of the patient were done before the initiation of the treatment (0day), during 8th day of the treatment and on the last day of the treatment (on 21st day).

Statistical analysis

For assessing the improvement of symptomatic relief and to analyze statistically the observations were recorded before, after the treatment and after follow- up. Assessment of the condition was done according to the detailed proforma adopting standard method of scoring of subjective and objective parameters was analyzed statistically. Obtained data was analyzed statistically with relevant statistical test accordingly. The mean, percentage, S.D, S.E, and t-value (paired t-test) were calculated from the observation recorded.

Table No. 2: Showing over all assessment of clinical response.

Complete relief	100% relief in sign and symptoms of Nidranasha
Marked relief	75-99% relief in signs and symptoms of Nidranasha
Good relief	50-74% relief in signs and symptoms of Nidranasha.
Moderate relief	25-49% relief in signs and symptoms of Nidranasha.
No relief	0% No change in signs and symptoms of Nidranasha.

OBSERVATIONS AND RESULTS**Overall effect of treatment in nidranasha**

In Overall effect of treatment in Nidranasha out of 30 patients in this study, 16 patients (53.33%) got moderate relief and 11 patients (37%) got marked relief.

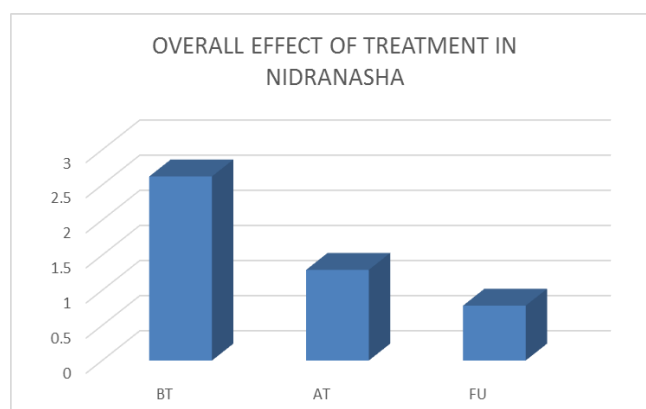
Overall effect of the treatment is 70.77%.

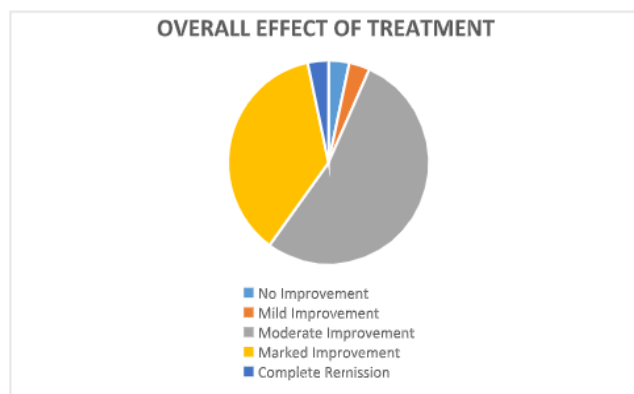
Statistical analysis showed that the mean score which was 2.62 in before treatment was reduced to 1.29 in after treatment and reduced to 0.78 in after follow up, and there is a statistically significant change at ($P < 0.0001$)

Table No. 3: Overall effect of treatment in nidranasha.

BT	AT	FU	SD	SE	T Value	P Value
2.62	1.29	0.78	0.71	0.13	-8.405	<0.0001

Overall effect of treatment		
Grading	Relief in percentage	Relief in patients
No Improvement	0%	1
Mild Improvement	1-30 %	1
Moderate Improvement	31 – 60%	16
Marked Improvement	61 – 99 %	11
Complete Remission	100%	1

Graph No. 1: Overall effect of treatment in nidranasha.



DISCUSSION

Nidra – one among the three Upastambhas, for the maintenance of the life.^[8] While discussing about Nidra and Nidranasha in the context of Astanindaniya Adhyaya, it is stated that Sukha and Dukha, Pushti and Karshya, Bala and Abala, Vrishata and Klibata, Jnana and Ajnana depend on the sleep.^[9] Moreover Nidra is Pushtida and Jagarana or Nidranasha does the Karshana of the body. The concept of Mardana is exclusively explained by Acharya Tiruka in his work named ‘Angamardana’. In this work total 26 Hastas (strokes) are explained which are indicated in healthy individuals as well as in diseased. Among those hastas specifically mentioned for Nidranasha i.e. Taranga Hastha, Anguli Kreedana Hastha, Mridwanguli Tadana Hastha, Dwihastha Tadana, Mrudumusti tadana, Garshana hasta and Ghatitha hasta. Mardana is one of the Bahirparimarjana Chikitsa which imparts Snehana to the Shareera. Mardana is Shramaghna, Vataghna, Nidraprada, Pushtiprada and Balaprada.^[10] Mardana is a variant of Bahya Snehana.

Ksheerabala Taila is very commonly used Ayurvedic medicine. This is used for the purpose of both internal and external applications in desired dosage. In Sahasrayogam it is indicated in Vatavyadhi. Ingredients of Ksheerabala Taila are Balamoola, Ksheera and Tila Taila. Ksheerabala Taila is Vata Pitta Shamana, Brihmana, Balya and Raktha Medho Vardhaka. So here the effect of shiromardana with Ksheerabala Taila reduces the vitiated Vata and Pitta Dosha and its Brhmana property nurtures the Kapha Dosha which leads to Tamo Guna Aadikya in Sanjnavaha Srotas and induces the Nidra.

Mode of action of abhyanga can be considered for mardhana also and can be understood by the properties of Snehanadravya.^[11]

Snigdha guna: This is explained as the main property of Snehana drug. Snigdha Guna acts by its Vata hara, Kapha kara and Vrishya gunas. This guna is responsible for the action like Snehana, Kledana and Vishyandana at cellular level of the body. **Guru Guna:** This increases the body strength and Kapha. According to Bhava prakasha Guru Guna is having the properties like Vata hara, Kapha kara and Pushti kara. Because of these properties it alleviates the morbid Vata, increases the decreased Kapha and nourishes the body. **Sheeta Guna:** It helps to keep the mind healthy by increasing pleasure and enthusiasm. Sheet a Guna prevents fainting and decreases the perspiration. It helps in stabilizing the muscles and organs. **Mridu guna:** Mridu Guna means softness. This is the opposite feature of Katina Guna. By the help of this property Abhyanga reduces the stiffness. **Drava guna:** Drava Guna means liquid, humidity. By this Drava Guna; the drug propagates easily all over the body. It liquefies the Doshas and mobilizes the Doshas. **Pichhila guna:** Pichhila Guna means slimy. It gives longevity, increases body strength. It aggravates Kapha and produces heaviness. **Sara guna:** The meaning of Sara is mobility. Sara Guna mobilizes the Doshas and Malas i.e. waste products by this property. **Manda guna:** It means dullness. The drug diffuses slowly by this property and it remains in the contact of Doshas, Dhatus and Malas for longer time. **Sukshma guna:** Sukshma Guna means fineness, minute and it helps the drug to enter in the minute channels, in this way Abhyanga acts through the above properties of Snehana. Because all the properties are opposite to the Vata, Abhyanga is considered useful treatment in the diseases occurred by aggravated Vata. Mode of Action of Abhyanga in Modern View^[12] i.e. The fluids of skin are drained to different parts of the body while doing abhyanga due to the osmotic pressure. Abhyanga causes hydrostatic pressure in the extracellular compartment of the skin. This pressure increases the blood circulation to a part where massage is done, causing splanchnic pooling of the blood to that surface, which leads to the absorption of the medicated oil/ghee and allows the passive entrance of the phytonutrients into the systemic circulation and then to the target structure. Very good lymph drainage occur during abhyanga. During and after massage amino acids like tryptophan may increase in the blood which may lead to increase in the production of the neurotransmitter serotonin, which is made from tryptophan at motor end plates. Massage may also cause increased acetylcholine production due to the action potential generated from the massage due to friction and pressure which are inserted during massage. The myelinated nerve fiber sheaths are chiefly made up of lipids. This action potential with the association of serotonin is responsible for the pleasant and calming effect during massage.

CONCLUSION

It is to conclude that, as Nidranasha and Insomnia has resemblance in terms of their etiology, signs, and symptoms. Furthermore, the investigation highlights the remarkable and prolonged effects of various mardana hastas during shiromardana therapy with Ksheerabala Taila, as evidenced by the highly significant results with a p-value of <0.0001 during the post-treatment follow-up. This underscores the safe and effective utilization of these hastas in the management of these conditions, promising a more comfortable and improved quality of life for individuals suffering from sleep disorders.

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