



Sarpagandha Vati and Brahmi Taila Shirobhyanga Synergism in the Management of Chronic Insomnia Associated with Perimenopause-A Case Report

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Abstract:

Insomnia is a common worldwide sleep disorder. With approximately 10-15% of adults in the general world population suffer from chronic insomnia,¹ with perimenopause being associated with sleep disturbance, statistically 40-60% of premenopausal and perimenopausal woman suffering from chronic insomnia,² potentially leading to lower life expectancies and more affective and substance abuse disorders, insomnia in perimenopause is a serious worldwide issue.³ *Nidranasha* is caused by *Vata* and *Pitta Dosha* increasing pathologically, leading to *Manasa Taapa*, or a reduction in mental stability as per Sushruta Samhita.⁴ A 48-year-old female patient came to the OPD suffering from disturbed sleep for the past five years. The patient was diagnosed with chronic insomnia disorder by the diagnostic criteria established in ICSD-3rd Edition and was diagnosed as perimenopausal by vasomotor symptoms. The patient was given *Shirobhyanga* with *Brahmi Taila* and *Sarpagandha Vati* for seven days and the results were assessed with the Insomnia Severity Index and Pittsburgh Sleep Quality Index scales. During treatment, the patient reported falling asleep sooner, having uninterrupted sleep, and awakening feeling more refreshed. The assessments were done with the ISI and PSQI scales, proving clinical significance. Clinical studies show that *Sarpagandha Vati* has a significant effect in insomnia as a sedative.⁵ Phytochemical studies show that the main ingredients of *Brahmi Taila* contain organic compounds that induce a sedative and neurologically tranquilising effect, and combined these drugs may have produced a synergistic action. Therefore, the combined treatment of *Sarpagandha Vati* and *Brahmi Taila Shirobhyanga* had a significant clinical effect in this case study.

Index Terms: Brahmi, Insomnia, Nidranasha, Perimenopause, Sarpagandha, Shirobhyanga

1. Introduction

Insomnia is a sleep disorder characterised as by a persistent difficulty with sleep initiation, duration, consolidation, or quality that occurs despite adequate opportunity and circumstances for sleep, and results in some form of daytime impairment.⁶ It is the most prevalent sleep disorder worldwide. Perimenopause is the transitional period between normal menstrual cycling and menopause. It is characterised by irregular periods, hot flashes, vaginal dryness, and mood swings. Statistically, 40-60% of premenopausal and perimenopausal woman suffer from chronic insomnia.⁷

As per the International Classification of Sleep Disorders 3rd Edition Third Revision, insomnia is classified into short term insomnia, chronic insomnia disorder, and other insomnia disorder. Short term insomnia is defined as insomnia that has existed less than three months. Chronic insomnia is when insomnia has existed for more than three months. Other insomnia disorder is when insomnia does not meet the criteria of the other two.⁸ Originally insomnia had been classified as primary and secondary depending on if it was associated with other disorders, but on account of the unclear relationship between insomnia and other non-sleep disorders, this classification was dropped. Instead, as long as insomnia is the primary clinical focus, it is its own disorder.

Nidra, or sleep, is one of the three pillars of life in Ayurveda known as *Trayopastambha*. Proper sleep is responsible for being able to experience pleasure, health, strength, learning capability, sexual capability, and life itself. Improper sleep leads to misery, sickness, weakness, difficulty in learning, loss of sexual function, and premature death. It is also responsible for mental stability, and loss of sleep leads to derangement of the mental faculties, which in turn worsens sleep loss.⁹

Shirobhyanga is a treatment modality where medicated oil is massaged into the scalp in a rhythmic manner meant to promote mental stability and sleep. It is a proven treatment for the management of insomnia.¹⁰ *Sarpagandha Vati* is another effective traditional single drug formulation for the promotion of healthy sleep. *Brahmi Taila* is a *Manasthapana* drug, meaning it promotes mental stability. It has been proven in the treatment of clinical anxiety as *Shirodhara*, another type of *Murdhni Taila*, meaning application of oil on the head.¹¹

2. Case Report

In October 2023, a 48-year-old female patient from Chennai, Tamil Nadu came to the outpatient department of Sri Jayendra Saraswathi College of Ayurveda and Hospital with the primary complaint of difficulty falling asleep and having disturbed sleep. She also had secondary complaints of mood swings, night sweats, irregular periods, difficulty concentrating, difficulty in memory recall, and persistent daytime fatigue. Her husband mentioned that she would have difficulty in falling asleep and once asleep would be constantly tossing and turning. All symptoms started five years ago in 2018. The patient had self-medicated with melatonin supplements at night. The patient has no history of diabetes mellitus, hypertension, thyroid disorders, or any other major systemic illnesses. The patient's mother also had insomnia during her menopausal transition accompanied by mood swings, daytime impairment, and excessive bleeding during menses.

The patient's diet is vegetarian. She has a regular appetite. Her bowel movements are normal with no difficulty in passage or excessive looseness, and she passes motion at least once per day. She typically passes urine four to five times in the daytime. The patient does not habitually drink tea or coffee, nor drink or smoke. The patient's menarche was at 14 years old, and she would get her period for five to six days every 28 days. For the past five years, her periods have changed, with her bleeding phase going from three to seven days every 20-35 days. The quantity on bleeding also varies per period, but as per her last period, she had bleeding for five days after a 35-day cycle.

2.1. Clinical Findings

Upon general examination, the patient was found to have a heart rate of 88 beats per minute, blood pressure of 110/70 mmHg, respiratory rate of 16 breaths per minute, height of 168 cm. and weight of 85 kg.

2.2. Mental Examination

The patient maintained good eye contact and rapport throughout the examination. The speech was normal and relevant in intensity, pitch, and speed. Her mood and affect were determined to be euthymic with comprehension intact. Her motor capabilities were normal. Her thought process was linear and goal oriented. The patient's thought content tended towards anxious, particularly in regard to her family life and personal health. Patient showed no signs of delusions, suicidal ideation, or hallucinations. Consciousness, concentration, and attention were well oriented as per time and place. There was a slight impairment in recent memory, though all other memory parameters were normal. The patient showed good judgement and insight.

2.3. Ayurvedic Clinical Examination

As per *Dasha Vidha Pariksha*, the patient's *Prakriti* was *Vata Kapha*, with the *Vikruti* of the condition being *Pitta Vata*. The patient is *Rakta Sara*, *Madhyama Samhanana*, *Madhyama Pramana*, *Madhyama Sattva*, *Madhyama Ahaara Shakti*, *Avara Vyayama Shakti*, and in the *Madhyama Avastha* stage of life. The patient resided in *Sadharana Desha*, and the examination was conducted in *Sharada Ritu*. The patient had a normal *Agni*. The *Manasika Prakriti* of the patient was predominantly *Rajasic*. The affected *Srotasa* were *Rasavaha Srotasa* and *Manovaha Srotasa*.

2.4. Investigations

The patient had done a routine wellness checkup, and abdomen and pelvis ultrasound showed no structural or pathological abnormalities in the reproductive organs. All hormone measurements of FSH, LH, oestrogen, and thyroid panel were found to be within the normal range. Her progesterone was slightly elevated at 0.4 ng/mL in the follicular phase. Her complete blood count showed she had mild anaemia at 10.8 gm./dL and a lower packed cell volume at 32.8%. She had a mildly elevated erythrocyte sedimentation rate of 23 mm/hour.

2.5. Diagnostic Focus and Assessment

Taking the physical and mental examinations into consideration, the patient was diagnosed with chronic insomnia disorder, as per the criteria established in the ICSD-3rd Edition, associated with perimenopause. The patient was assessed for severity as per the Insomnia Severity Index and the Pittsburgh Sleep Quality Index. The patient was determined to have moderate clinical insomnia with a score of 21. As per the Pittsburgh Sleep Quality Index, the patient had a score of 18 out of a total of 21.

2.6. Therapeutic Interventions

Table 2.1: Internal Intervention

Drug Intervention	Dosage	Drug Adjuvant (Anupana)	Time of Administration	Duration
Sarpagandha Vati	500 mg.	Warm water	One tablet one hour prior to bedtime.	7 days

Table 2.2: External Intervention

Procedure	Drug for Usage	Duration
Shirobhyanga	Brahmi Taila	7 days

3. Results

Table 3.1. Before and After Assessment of Symptoms

Symptoms	Before Treatment	After Treatment
Difficulty Falling Asleep	+++	0
Disturbed Sleep	+++ (2-hour sleep latency)	+ (45-minute sleep latency)
Daytime Fatigue	+++	+
Concentration Difficulty	++	0
Memory Recall Difficulty	++	0
Myalgia	+	0

3.1. Scale Assessment

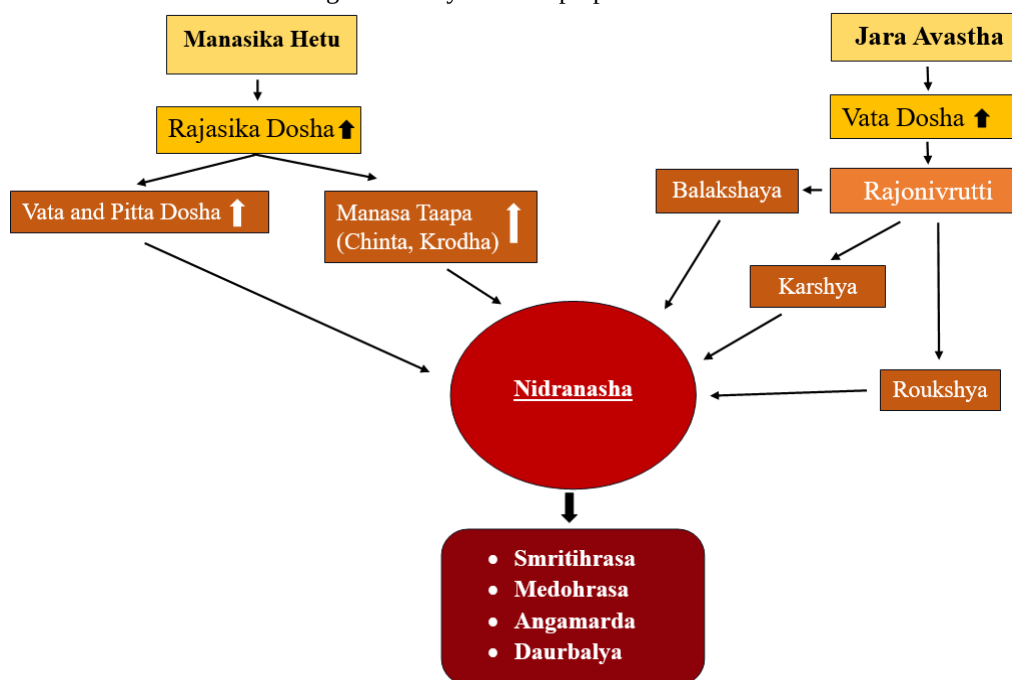
Table 3.2. Insomnia Severity Index Assessment

Scale	Before Treatment	After Treatment	Follow Up (After 1 Month)
Insomnia Severity Index	21 Clinical Insomnia (Moderate Severity)	6 No Clinically Significant Insomnia	4 No Clinically Significant Insomnia
Pittsburgh Sleep Quality Index	18 out of a total score of 21	-	6 out of a total score of 21

The patient also mentioned a reduction in mood swings and excessive sweating in the night. Her ability to concentrate and recall events also improved.

4. Discussion

Figure 4.1. Vyadhi Samprapti in Patient



In this patient, her symptoms were caused by *Atichinta*, *Atikrodha*, gradual onset of *Jara Avastha*, excessive travelling, and excessive intake of *Amla*, *Katu*, and *Lavana Ahaara*. All these *Hetu* lead to an increase in both *Vata* and *Pitta* dosha in the body. This aggravated *Vata* and *Pitta* afflicted the *Manovaha Srotas* and *Rasavaha Srotas*, creating *Vimargagamana* and leading to disturbed sleep, which in turn lead to affliction of memory (*Smritihrasa*), concentration difficulty (*Medohrasa*), body aches (*Angamarda*), and overall body weakness and fatigue (*Daurbalya*). The primary *Gunas* involved in the *Samprapti* of this condition are *Ushna*, *Ruksha*, and *Chala*.

Sarpagandha Vati is a proven drug to have clinically significant effect upon *Nidranasha*, with *Sarpagandha* having the *Prabhava* or special property of being *Nidrajanana*.¹² This combined with the fact it is *Tikta Rasa*, and therefore *Medhya* and *Pittahara*, made it an ideal drug of choice for this patient. The phytochemical constituents of *Rauwolfia serpentina* include alkaloids such as reserpine, deserpidine, ajmaline, yohimbine, and more. Reserpine is noted for its tranquilising and antihypertensive effect.¹³ The alkaloids present in *Sarpagandha* are thought to have a combined sedative effect promoting sleep, possibly through inhibition of norepinephrine and serotonin, which could in turn activate the GABA-ergic cells of the basal forebrain and preoptic area, or vice versa.¹⁴ These actions help to promote undisturbed sleep.

Figure 4.2. Sarpagandha Vati Probable Mode of Action

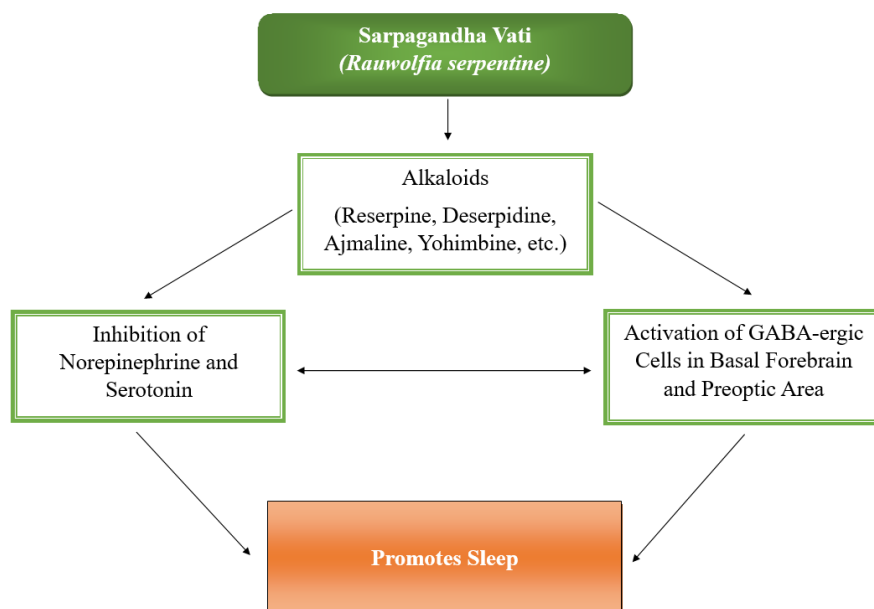


Table 4.1. Brahmi Taila Drug Information

Drug	Scientific Name	Family
Brahmi	<i>Bacopa monnieri</i>	Scrophulaceae
Yashtimadhu	<i>Glycyrrhiza glabra</i>	Fabaceae
Karpura	<i>Cinnamomum camphora</i>	Lauraceae
Anjana	Lead sulphide	-

Table 4.2. Brahmi Taila Drug Properties

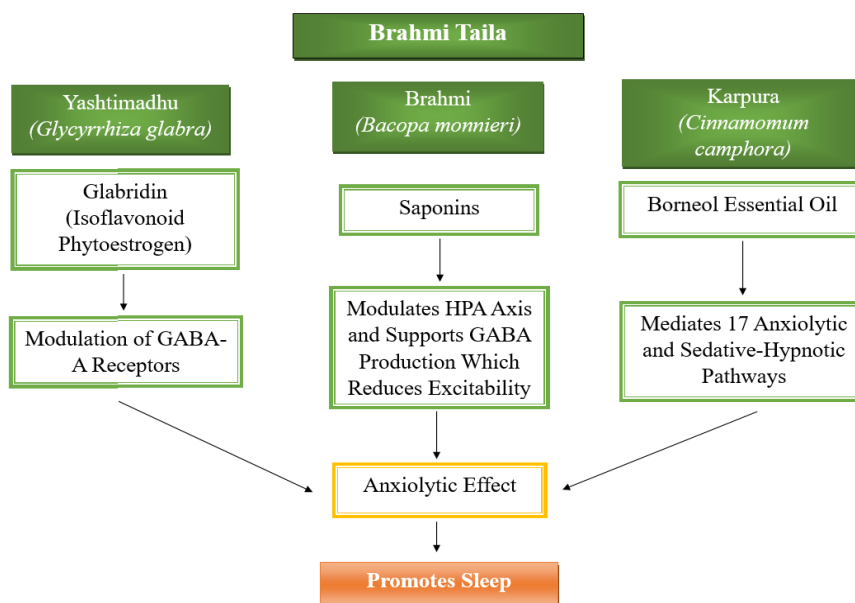
Drug	Rasa	Virya	Vipaka	Guna	Karma
Brahmi	Kashaya, Tikta	Sheeta	Madhura	Laghu Guna	Medhya
Yashtimadhu	Madhura	Sheeta	Madhura	Guru, Snigdha Guna	Medhya, Rasayana, Pitta-Anila Asrajit
Karpura	Tikta, Katu, Madhura	Sheeta	Madhura	Laghu, Ruksha Guna	Kapha-Pittahara

The main three active ingredients in *Brahmi Taila* are *Brahmi*, *Yashtimadhu*, and *Karpura*. Of these, *Brahmi* is the most active constituent. *Brahmi* is *Kashaya* and *Tikta Rasa*, making it an ideal *Pittahara Dravya*, and being *Madhura Vipaka* means that it is also *Vatahara*. This directly acts on the *Doshic* involvement in this patient's manifestation of *Nidranasha*. Being *Medhya* by *Karma*, it is strengthening to *Manovaha Srotas*, which could have reduced *Manasa Taapa* and arrested the increase in *Rajasa Dosha*. *Brahmi's* exact mode of action is yet to be determined, but phytochemical studies suggest it may have to do with saponins.¹⁵ As a single drug formulation in the form of a *Vati*, it has been proven to reduce Generalised Anxiety Disorder and was associated with improvement of night sleep.¹⁶ *Brahmi Vati* also showed a previous effect on increasing sleep duration, reducing sleep onset latency, and reducing night awakenings in patients of essential hypertension.¹⁷

Yashtimadhu is also *Vata-Pittahara* in action, which reduces the *Doshic* involvement. Being *Medhya* in action, it also soothes the *Manovaha Srotas*. As it is *Rasayana*, *Yashtimadhu* also rejuvenates the *Srotas*, restoring the *Manovaha Srotas* to its proper functioning, which thereby promotes proper sleep. *Yashtimadhu's* primary sedative is an isoflavonoid known as glabridin.¹⁸ Glabridin is also a phytoestrogen, which may contribute to *Yashtimadhu's* highly estrogenic activities. This can also contribute to reducing night sweats along with potentially regulate the HPO Axis and the GABA-A receptors located along the HPA Axis, which has a major impact on sleep regulation.¹⁹

Karpura is *Tikta Rasa* and *Sheeta Virya* in nature, making it *Medhya* as well as *Pittahara*. Although it has not been specifically mentioned in Ayurveda as a sleep promoter, *Cinnamomum camphora* was studied for its sedative-hypnotic action. In this study, it was found that borneol essential oil in camphor acted on 17 anxiolytic and sedative-hypnotic pathways, with 12 key proteins identified to act primarily on dopamine and opioid receptors. This ultimately shortened sleep latency and prolonged sleep duration.²⁰ *Anjana* is an added ingredient in the formulation of *Brahmi Taila*. Although it has no specific *Medhya* action, it is very cooling by nature which helps to reduce *Pitta*.

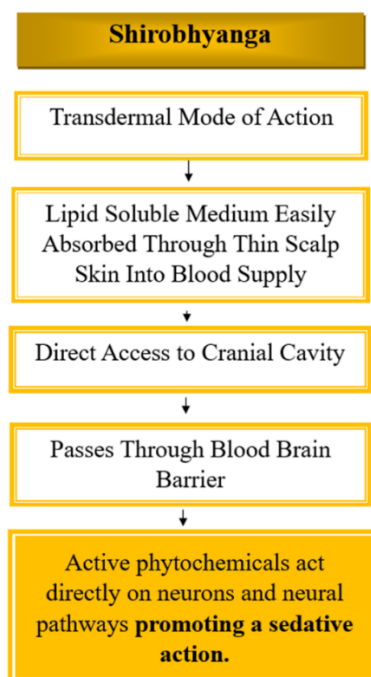
Figure 4.3. Brahmi Taila Probable Mode of Action



Shirobhyanga is a classically mentioned form of *Murdhni Taila*, which is an indicated treatment for the treatment of *Nidranasha*.²¹ Classically, the *Snigdha Guna* of *Taila* with the calming rhythmic movements used in *Shirobhyanga* is what promotes *Nidra*. The *Snigdha Guna* of the *taila*, along with the medicinal properties of *Brahmi Taila* (*Sheeta*, *Snigdha*, *Medhya*, and *Pittavata shamaka*) help reduce the overall causative factors for *Nidranasha* in this patient. It also has the added benefit of calming the mind. *Shirobhyanga* acts via the transdermal route of administration.²² As lipid soluble molecules are the only molecules permitted past the Blood Brain Barrier, to effectively transport the required active phytochemicals to neurons and transmitters, the medium of transport must also be lipid soluble. Hence, in the *Shirobhyanga* applied to this patient, *Brahmi Taila* was applied and massaged into the scalp to facilitate easy absorption.

into the rich blood supply of the scalp to be transported into cranial cavity. From there it may pass through the Blood Brain Barrier, and the active phytochemical constituents can therefore promote a faster and more effective neural action.

Figure 4.4. Shirobhyanga Probable Mode of Action



5. Conclusion:

The present study has shown encouraging results in using the combined therapy of *Sarpagandha Vati* and *Brahmi Taila Shirobhyanga* in insomnia associated with perimenopause. The patient found that her sleep was no longer disturbed, and her complaints of night sweats, daytime fatigue, memory difficulty, and concentration difficulty improved as well. Further clinical studies are required to determine exact modes of actions of these medicines as well as to establish the statistical significance of these therapies in insomnia. With insomnia being a prevalent issue in today's society, *Ayurveda* offers treatments that can effectively mitigate the suffering of millions of people.

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