Received: 15 Jan 2026	Revised: 15 Feb 2026	Accepted: 30 March 2026

Review Article

IJAMH
A Step Towards Inner Peace

ISSN: 3048-572X

"ANIDRA (INSOMNIA): CLASSICAL MANAGEMENT AND MODERN EVIDENCE FOR AYURVEDIC SLEEP INTERVENTIONS"

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FUNDING INFORMATION:
Not Applicable

How to cite this article:
Gandhi J, "Anidra (insomnia): classical management and modern evidence for Ayurvedic sleep interventions" International Journal of Ayurvedic Medicine and Mental Health. 2026;3(1):23-27.
Sri. 2026.1004.ijamh.01.04

ABSTRACT:

Background: Insomnia is one of the most common sleep complaints and a recognised risk factor for depression and other mental disorders. Charaka counts sleep (Nidra) among the three supports of life (Trayopastambha) and describes the causes, consequences and management of sleeplessness (Anidra) in detail. **Objective:** To review the classical Ayurvedic understanding and management of Anidra and to evaluate modern evidence for Ayurvedic and related sleep interventions. **Methods:** Narrative review of classical texts, clinical guidelines on insomnia and published trials and meta-analyses of Ashwagandha, Shirodhara, yoga and other interventions. **Results:** Ayurveda attributes Anidra mainly to aggravated Vata and Pitta, mental factors such as worry, fear and anger, and irregular routine, and treats it with oleation and massage, Shirodhara and other head therapies, nourishing diet, milk and ghee preparations, Medhya and sleep-promoting herbs, and lifestyle regulation. Among these, Ashwagandha has the strongest evidence: a meta-analysis of randomised trials found a small but significant improvement in overall sleep, larger in people with insomnia and at doses of at least 600 mg per day for eight weeks or more. A randomised crossover pilot study suggested sleep benefits of Shirodhara with sesame oil compared with warm water. Yoga improves self-reported sleep quality in meta-analyses. **Conclusion:** Ayurveda provides a coherent, largely non-pharmacological framework for insomnia that aligns with modern sleep hygiene and behavioural principles. Ashwagandha and yoga have supportive evidence; Shirodhara and classical formulations need larger controlled trials.

Keywords: Anidra; Nidranasha; insomnia; Ashwagandha; Shirodhara; Trayopastambha; sleep hygiene

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INTRODUCTION:

Insomnia disorder is defined by difficulty initiating or maintaining sleep, or early morning waking, with daytime impairment, occurring at least three nights a week for at least three months[1]. Insomnia symptoms are common in the general population, and chronic insomnia disorder affects a substantial minority of adults[2]. It impairs mood, concentration, work performance and quality of life, and a meta-analysis of longitudinal studies found that people with insomnia have about twice the risk of developing depression[3].

Guidelines recommend cognitive behavioural therapy for insomnia (CBT-I) as first-line treatment[4,5], supported by meta-analytic evidence of clinically meaningful improvements in sleep onset latency, wake after sleep onset and sleep efficiency [6]. Hypnotic medicines are effective in the short term but carry risks, especially in older adults, where a meta-analysis found that the risks of sedative hypnotics, including falls and cognitive effects, may outweigh the modest benefits[7]. Many patients therefore seek non-drug or natural approaches.

Ayurveda places great emphasis on sleep. Charaka names food (Ahara), sleep (Nidra) and regulated sexual conduct (Brahmacharya) as the three supports of life[8]. He describes proper sleep as giving happiness, nourishment, strength, virility, knowledge and life, and improper sleep as producing unhappiness, emaciation, weakness, impotence, ignorance and even death[8]. This review summarises the classical understanding of Anidra and evaluates modern evidence for Ayurvedic sleep interventions.

METHODS:

The main classical source was Charaka Samhita, Sutra Sthana 21 (Ashtauninditiya Adhyaya), which deals with sleep, along with Sutra Sthana 11[8]. Modern evidence was identified in PubMed and Google Scholar using insomnia, sleep quality, Ayurveda, Ashwagandha, Withania, Shirodhara, oil dripping, yoga and meditation, with priority to clinical guidelines, meta-analyses and randomised trials. This is a narrative review.

CLASSICAL UNDERSTANDING OF NIDRA AND ANIDRA:

Physiology of sleep

Charaka explains that sleep occurs when the mind, along with the senses, becomes exhausted and withdraws from their objects [8]. Sushruta relates sleep to Tamas and describes the heart as the seat of consciousness; when it is covered by Tamas, the person sleeps. Kapha is associated with heaviness and the onset of sleep, while Vata and Pitta are associated with wakefulness.

Types of sleep

Charaka describes several types of sleep according to their cause: sleep due to Tamas, due to Kapha, due to mental or physical exhaustion, due to external causes, due to disease, and natural sleep at night (Ratri Svabhava Prabhava), which is regarded as the best and is called Bhutadhatri, the nurse of all beings[8].

Causes of Anidra

Charaka lists the following causes of sleeplessness[8]:

- Therapeutic causes: purgation, emesis, nasal medication and bloodletting in excess.
- Physical factors: excessive exercise, fasting, uncomfortable bed, hunger, pain.
- Mental factors: fear, anxiety, anger, grief, excitement.
- Doshic factors: aggravation of Vata and Pitta, depletion of Kapha.
- Constitutional factors: Sattva predominance and Tamas suppression.
- Habits: smoking, excessive use of dry and astringent foods.
- Ageing.

Modern Ayurveda authors group these into dietary, behavioural, psychological and disease-related causes, and identify Vata aggravation as the central pathogenic factor.

Consequences of Anidra

Charaka and Sushruta describe the consequences of sleep loss as body ache, heaviness of the head, yawning, lassitude, exhaustion, giddiness, indigestion, drowsiness and the aggravation of Vata disorders[8]. Charaka also lists excessive wakefulness as a cause of Ojas depletion. These consequences resemble the daytime impairment and increased disease risk associated with chronic insomnia.

Pathogenesis

In Ayurvedic terms, Anidra arises when Vata (especially Prana Vata) and Pitta (especially Sadhaka Pitta) are aggravated by causes such as worry, irregular routine, dry food and overwork. These Doshas affect the Manovaha and Rasavaha channels and disturb the balance of Tarpaka Kapha in the head. The result is an overactive mind that cannot withdraw from sense objects, which is the defining condition for sleep.

Classical management

Table 1: Charaka gives a specific list of measures to induce sleep

Category	Measures described	Modern parallel
Oleation and massage	Abhyanga (body massage), Murdha Taila (oil on the head), Utsadana (unction), Samvahana (gentle pressing massage)	Massage, relaxation
Diet	Milk, meat soup, curd, rice with ghee, sweet and nourishing foods, wine in moderation (for those accustomed)	Light evening meal, warm milk
Head therapies	Oil on head, Akshi Tarpana (eye satiation), application to face	Shirodhara, head massage
Environment	Comfortable bed, pleasant room, pleasing smells and sounds	Sleep environment optimisation

Mind	Peace of mind, pleasant company, freedom from worry	Stress reduction, cognitive approaches
Routine	Regular sleep at night, avoidance of daytime sleep (except in specific cases)	Stimulus control, sleep scheduling

Later Ayurvedic texts and practice add Shirodhara, Shiro Pichu, Shiro Basti, Padabhyanga (foot massage), Nasya with ghee, and sleep-promoting herbs and formulations such as Ashwagandha, Jatamansi, Tagara, Brahmi, Sarpagandha (under supervision), Ksheerabala Taila and Brahmi Ghrita.

Charaka also notes that excessive daytime sleep aggravates Kapha and should generally be avoided, except in summer and for certain categories of people[8]. This corresponds to the modern behavioural recommendation to restrict daytime naps to consolidate night-time sleep.

MODERN EVIDENCE FOR AYURVEDIC SLEEP INTERVENTIONS:

Ashwagandha

Ashwagandha is the most studied Ayurvedic herb for sleep. In a randomised, double-blind, placebo-controlled trial in 60 patients with insomnia, Ashwagandha root extract 300 mg twice daily for ten weeks improved sleep onset latency, total sleep time, sleep efficiency, sleep quality scores and anxiety scores compared with placebo[9]. In another randomised trial in healthy adults, an Ashwagandha extract improved sleep quality measures compared with placebo[10].

A systematic review and meta-analysis of five randomised controlled trials including 400 participants found that Ashwagandha had a small but statistically significant effect on overall sleep compared with placebo[11]. The effect was more pronounced in adults with insomnia, at doses of 600 mg per day or more, and with treatment of eight weeks or longer. Ashwagandha also improved mental alertness on rising and anxiety, with no serious adverse events reported in the included trials.

The species name somnifera itself means “sleep-inducing”, reflecting long traditional use. The evidence suggests that Ashwagandha is a reasonable option for mild to moderate insomnia, particularly when anxiety or stress is prominent. Liver injury has been reported rarely with Ashwagandha supplements, so caution is advised in people with liver disease[12].

Shirodhara

Shirodhara involves a steady stream of warm medicated oil or other liquid poured over the forehead for 30 to 60 minutes. It is widely used for insomnia in Ayurvedic practice. In a randomised, single-blinded crossover pilot study in adults with sleep problems, Shirodhara with sesame oil was compared with Shirodhara using warm water; the oil treatment was associated with better sleep outcomes than water[13]. This is one of the few studies to attempt a controlled comparison, but it was small and short.

Most other Shirodhara studies in insomnia are uncontrolled or single-arm and use non-standard outcome measures. Because Shirodhara is a strongly relaxing sensory experience, sham-controlled designs are essential to separate specific effects of medicated oils from non-specific relaxation.

Yoga and meditation

Yoga, Pranayama and meditation are frequently combined with Ayurvedic treatment. A meta-analysis of randomised controlled trials in women with sleep problems found that yoga significantly improved self-reported sleep quality compared with control conditions[14]. Yoga-based interventions are consistent with Charaka’s emphasis on peace of mind as a prerequisite for sleep.

Other herbs and formulations

Jatamansi, Tagara (Valeriana wallichii), Brahmi and Sarpagandha are used for sleep in Ayurveda. Valerian, a related plant, has been studied extensively in Western herbal medicine; a meta-analysis found that valerian improved subjective sleep quality but noted methodological problems in the trials[15]. Sarpagandha contains reserpine and has significant side effects, including depression and hypotension, so it should be used only under medical supervision. Classical formulations such as Ksheerabala Taila and Brahmi Ghrita lack controlled trials in insomnia.

Table 2: Summary of evidence

Intervention	Best available evidence	Main outcome	Certainty (authors’ judgement)
Ashwagandha	Meta-analysis of 5 RCTs; individual RCTs[9–11]	Small improvement in overall sleep; larger in insomnia	Moderate
Shirodhara (sesame oil)	Randomised crossover pilot[13]	Better sleep vs warm water	Low
Yoga	Meta-analysis of RCTs in women[14]	Improved sleep quality	Moderate

Jatamansi, Tagara, Brahmi	Traditional use; limited clinical data	Not established	Very low
Classical formulations	Small studies	Not established	Very low

ANIDRA IN SPECIFIC GROUPS:

Older adults

Ayurveda describes old age (Vriddhavastha) as a period of Vata predominance, and lists ageing among the causes of sleeplessness [8]. This matches the modern observation that sleep becomes lighter and more fragmented with age. Because older adults are particularly vulnerable to the adverse effects of hypnotics, including falls and confusion[7], non-drug Ayurvedic measures such as oil massage, foot massage, warm milk at night, a regular routine and gentle yoga are especially relevant. Herbal medicines should be introduced cautiously, considering other medicines and liver and kidney function.

People under psychological stress

When worry, grief or fear are the main causes, Ayurveda places Sattvavajaya and calming therapies at the centre of treatment. The Ashwagandha trial in patients with insomnia found that anxiety scores improved along with sleep[9], supporting the classical view that calming the mind is a prerequisite for sleep. In such patients, screening for anxiety and depressive disorders is important, because insomnia is often a presenting symptom of these conditions[3].

Shift workers and irregular routines

Charaka regards sleep at night as the natural and best form of sleep, and describes wakefulness at night as harmful [8]. Night-shift work and irregular schedules are therefore a modern form of a classical cause of Anidra. Where shift work cannot be avoided, Ayurvedic advice emphasises compensating with rest, oleation and nourishing food, and avoiding stimulants and heavy meals before sleep. Such advice is compatible with modern recommendations on circadian hygiene but has not been formally evaluated.

A practical stepwise approach

Drawing on both the classical texts and current guidelines, a stepwise approach to Anidra in an Ayurveda clinic could include:

1. Assessment: sleep history and a two-week sleep diary; Insomnia Severity Index; screening for depression, anxiety, sleep apnoea, pain and medicines; Ayurvedic assessment of Prakriti, Dosha predominance, Agni and Sattva.
2. Routine and environment: fixed waking time, avoidance of daytime sleep, limiting time in bed to time asleep, a dark, quiet and comfortable room, and avoidance of screens and stimulating work late in the evening.
3. Evening practices: warm oil Padabhyanga or Shiro Abhyanga, a light early dinner, and warm milk with a pinch of nutmeg or with Ashwagandha if indicated.
4. Mind: Sattvavajaya counselling, slow breathing (for example, Bhramari or Nadi Shodhana Pranayama) and short meditation before bed.
5. Medicines: a standardised Ashwagandha preparation for 8–12 weeks where anxiety or stress is prominent, with monitoring for adverse effects.
6. Procedures: a course of Shirodhara where available and acceptable, recognising that evidence is still limited.
7. Review: repeat the Insomnia Severity Index and sleep diary after four to six weeks; refer for CBT-I or medical evaluation if there is no improvement.

Convergence with modern insomnia treatment

Many classical recommendations correspond closely to elements of CBT-I and sleep hygiene. Charaka's advice on regular night sleep and avoidance of daytime sleep resembles sleep scheduling and nap restriction. His emphasis on a comfortable bed, pleasant surroundings and calm mind resembles stimulus control and relaxation training. Avoidance of stimulating and Vata-aggravating activities in the evening parallels advice to reduce evening arousal. The use of warm milk and a light evening meal is consistent with common sleep hygiene guidance.

These parallels suggest that an integrated programme combining CBT-I principles with Ayurvedic practices (Abhyanga, Padabhyanga, Shirodhara where available, dietary advice and Ashwagandha) could be both acceptable to Indian patients and grounded in evidence. Such a programme has not yet been tested.

DISCUSSION:

Ayurveda offers one of the most detailed classical accounts of sleep and insomnia in any medical tradition. Its emphasis on routine, environment, diet, massage and peace of mind is remarkably consistent with modern behavioural sleep medicine. Its pharmacological contribution is best supported for ashwagandha.

The main gaps in evidence concern Shirodhara and other procedures. They are popular and have plausible relaxation effects, but rigorous trials are lacking. Trials should use validated outcomes such as the Insomnia Severity Index and Pittsburgh Sleep Quality Index, objective measures such as actigraphy or polysomnography where possible, appropriate sham controls, and follow-up beyond the treatment period. They should also enrol patients with diagnosed insomnia disorder rather than general populations with mild sleep complaints.

Clinicians should screen for underlying causes of insomnia, including depression, anxiety, obstructive sleep apnoea, restless legs, pain and medication effects. Insomnia that is secondary to these conditions requires treatment of the underlying problem. Patients using hypnotics should not stop them abruptly when starting Ayurvedic treatment.

CONCLUSION:

Ayurveda regards sleep as a pillar of life and describes Anidra as a disorder of aggravated Vata and Pitta driven largely by mental and lifestyle factors. Its management combines oleation, head therapies, diet, routine, herbs and mental calm. Ashwagandha and

yoga have supportive evidence from randomised trials and meta-analyses, while Shirodhara and classical formulations require larger, sham-controlled trials. An integrated model that combines Ayurvedic practices with cognitive behavioural principles is a promising direction for research and practice.

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