

CLINICAL EFFICACY OF A SWASTHAVRITTA-BASED REGIMEN IN IMPROVING SLEEP QUALITY AND PSYCHOLOGICAL WELL-BEING AMONG PATIENTS WITH INSOMNIA: A RANDOMIZED CONTROLLED CLINICAL STUDY

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ABSTRACT

Background: Chronic insomnia is a persistent sleep disorder that adversely affects daytime performance, emotional stability, cognitive efficiency, quality of life, and long-term health. Ayurveda recognizes *Nidrā* as one of the principals supports of life and describes pathological sleep disturbance under the concepts of *Anidrā* and *Nidrānāśa*. The discipline of *Swasthavritta* emphasizes regulation of daily routine, food habits, physical activity, sensory exposure, sleep conduct, Yoga, and mental discipline. These principles may offer a comprehensive non-pharmacological strategy for the management of insomnia. **Objective:** The present study was undertaken to assess the clinical efficacy of a structured Swasthavritta-based regimen in improving sleep quality, reducing insomnia severity, enhancing psychological well-being, lowering anxiety, and improving sleep-related daytime functioning in patients with chronic insomnia. **Materials and**

Methods: A randomized, controlled, parallel-group clinical study was conducted among patients diagnosed with chronic insomnia. One hundred individuals were screened, of whom 40 were excluded on the basis of eligibility criteria or unwillingness to participate. The

remaining 60 participants were randomized equally into two groups. Group A comprised 30 participants who received a comprehensive Swasthavritta-based regimen for eight weeks. The intervention included regularization of sleep-wake timing, adjustment of meal timing, morning light exposure, moderate physical activity, dietary modification, reduction of evening digital exposure, *Padābhyanga*, selected *Yogāsana*, *Nāḍīśodhana*, *Bhrāmarī*, mindfulness-based relaxation, Yoga Nidra, and behavioural sleep guidance. Group B included 30 participants who received standardized sleep-hygiene education. The principal outcomes were assessed using the Pittsburgh Sleep Quality Index and the Insomnia Severity Index. Psychological well-being, anxiety, sleep efficiency, daytime functioning and selected Ayurvedic symptoms were evaluated as secondary outcomes. **Results:** Both groups demonstrated improvement after eight weeks, but the reduction in sleep disturbance was substantially greater in Group A. The mean Pittsburgh Sleep Quality Index score decreased from 14.2 ± 2.4 to 6.1 ± 2.0 in Group A, while Group B showed a reduction from 13.9 ± 2.3 to 10.8 ± 2.2 . The mean Insomnia Severity Index score declined from 19.6 ± 3.1 to 7.8 ± 2.9 in Group A and from 19.1 ± 3.0 to 14.2 ± 3.2 in Group B. Group A also demonstrated greater improvement in psychological well-being, anxiety, sleep efficiency, daytime alertness, and Ayurvedic symptoms associated with inadequate sleep. The between-group differences for the major outcomes were statistically significant. **Conclusion:** The findings indicate that a structured Swasthavritta-based regimen may be more effective than sleep-hygiene education alone in improving sleep quality, insomnia severity, psychological well-being, anxiety, and sleep efficiency. The intervention appears to be a feasible and culturally relevant approach for the non-pharmacological management of chronic insomnia.

KEYWORDS: Anidra, chronic insomnia, psychological well-being, sleep quality, Swasthavritta, Yoga Nidra.

1. INTRODUCTION

Sleep is an essential physiological process that contributes to neurological restoration, emotional regulation, metabolic stability, immune competence, memory consolidation and overall functional health. The quality of sleep depends not only on the total duration of sleep but also on its continuity, timing, regularity, depth, and restorative effect. Persistent disturbance of sleep may lead to fatigue, impaired concentration, reduced memory, irritability, diminished occupational performance and a decline in health-related quality of life.^[1-3]

Chronic insomnia disorder is characterized by persistent difficulty in initiating sleep, maintaining sleep, or returning to sleep after premature awakening despite adequate opportunity for rest. These symptoms are generally accompanied by clinically significant distress and impairment in social, occupational, behavioural, or other important domains of daily functioning.^[1,2]

The persistence of insomnia is often explained through the interaction of predisposing vulnerability, precipitating stressors, and perpetuating behavioural and cognitive factors. Irregular sleep schedules, excessive time spent in bed, compensatory daytime sleep, anxiety about sleep, maladaptive beliefs, stimulant intake, digital stimulation at night, inadequate daytime activity, and psychological distress may continue to sustain insomnia even after the initial cause has subsided.^[4,5]

Insomnia and psychological morbidity share a reciprocal relationship. Emotional stress, anxiety, depressive symptoms, grief, and occupational pressure can disturb sleep onset and maintenance. In turn, chronic sleep disturbance may heighten emotional reactivity, increase anxiety, reduce stress tolerance and contribute to the development or worsening of depressive symptoms.^[6,7]

Pharmacological agents may provide symptomatic relief, particularly during the acute phase of insomnia. However, long-term reliance on sedative-hypnotic drugs may be associated with tolerance, dependence, residual daytime drowsiness, cognitive impairment, falls and rebound insomnia in vulnerable individuals.^[8] For this reason, cognitive behavioural therapy for insomnia is widely recommended as a first-line intervention for chronic insomnia.^[9-12]

Despite its effectiveness, access to trained therapists remains limited in many settings. Moreover, chronic insomnia rarely exists as an isolated problem. It is often embedded within irregular daily schedules, improper meal timing, sedentary habits, excessive mental stimulation, emotional stress, and unsuitable sleep behaviour. A comprehensive lifestyle-based approach may therefore be more appropriate than isolated sleep-hygiene advice.

1.1 Ayurvedic concept of Nidra

Ayurveda identifies *Āhāra*, *Nidrā* and regulated *Brahmacarya* as the three supporting pillars of life.

आहारः स्वप्नो ब्रह्मचर्यमिति त्रयोपस्तम्भाः।

This statement from *Caraka Saṃhitā, Sūtrasthāna 11/35* emphasizes that food, sleep and disciplined conduct form the fundamental supports of physical and mental well-being.^[13]

The importance of sleep is further expressed in the classical verse.

निद्रायत्तं सुखं दुःखं पुष्टिः काश्यं बलाबलम्।

वृषता क्लीबता ज्ञानमज्ञानं जीवितं न च॥

According to *Caraka Saṃhitā, Sūtrasthāna 21/36*, proper or improper sleep influences happiness, distress, nourishment, emaciation, strength, weakness, reproductive capacity, cognition, and the maintenance of life itself.^[14]

Ayurvedic texts explain that physiological sleep occurs when the mind and sensory organs withdraw from external objects because of fatigue. Proper sleep is associated with the stabilizing influence of *Kapha* and *Tamas*. Conversely, insomnia may occur due to aggravated *Vāta* and *Pitta*, diminished *Kapha*, increased *Rajas*, mental overactivity, excessive exertion, fasting, fear, anger, grief, pain and irregular conduct.^[13–16]

Clinical features associated with inadequate sleep include *Aṅgamarda*, *Śirogaurava*, *Jṛmbhikā*, *Jāḍya*, *Glāni*, *Bhrama*, *Apakti*, and *Tandrā*. These manifestations indicate that disturbed sleep affects not only the mind but also bodily comfort, digestion, alertness, and daily performance.^[16]

1.2 Relevance of Swasthavritta in insomnia

Swasthavritta is the preventive and health-promotive branch of Ayurveda. It aims to preserve health through appropriate regulation of daily routine, seasonal behaviour, diet, physical activity, sleep, sensory conduct, and mental discipline. The approach is broader than conventional sleep-hygiene advice because it attempts to restore regularity across multiple domains of life.

In the context of insomnia, a *Swasthavritta*-based regimen may include regularization of waking and sleeping time, morning light exposure, proper timing of meals, moderation of daytime sleep, avoidance of stimulating substances, appropriate physical activity, regulation of digital exposure, relaxation through *Yoga* and *Padābhyanga*, and mental discipline through *Sadvṛtta*.

Contemporary evidence supports several elements of this approach. Yoga-based interventions have shown beneficial effects on subjective sleep quality in different populations.^[17,18] Yoga Nidrā has also demonstrated potential benefit in individuals with chronic insomnia and psychological distress.^[19–21] Ayurvedic clinical research has explored the role of *Śirodhārā*, *Jatāmāṃsī*, *Tagara* and other interventions in sleep disturbance, although the methodological strength of these studies varies.^[22–25]

The present clinical study was therefore designed to evaluate the effect of an integrated Swasthavritta-based regimen using validated sleep and psychological outcome measures.

2. AIM

The aim of the study was to determine the clinical efficacy of a structured Swasthavritta-based regimen in improving sleep quality and psychological well-being among patients with chronic insomnia.

3. OBJECTIVES

The primary objective was to evaluate the change in subjective sleep quality using the Pittsburgh Sleep Quality Index and the change in insomnia severity using the Insomnia Severity Index. The secondary objectives were to assess changes in sleep-onset latency, total sleep time, sleep efficiency, psychological well-being, anxiety, daytime fatigue, concentration, emotional stability, and classical Ayurvedic symptoms associated with inadequate sleep.

4. MATERIALS AND METHODS

4.1 Study design

The study was conducted as a prospective, randomized, controlled, parallel-group clinical trial.

4.2 Study setting

Participants were recruited from the outpatient departments of Swasthavritta and Yoga and from other relevant clinical departments of an Ayurveda teaching hospital.

4.3 Study duration

Each participant received the assigned intervention for a period of eight weeks.

4.4 Participant recruitment and allocation

A total of 100 individuals with symptoms suggestive of insomnia were screened. Forty were excluded because they did not fulfil the diagnostic criteria, had another sleep disorder, had severe psychiatric or systemic illness, declined participation or were unable to comply with the intervention.

The remaining 60 participants were randomized equally into two groups. Group A included 30 participants who received the structured Swasthavritta-based regimen, whereas Group B included 30 participants who received standardized sleep-hygiene education.

4.6 Eligibility criteria

Adults between 18 and 65 years of age were included if they fulfilled the diagnostic criteria for chronic insomnia disorder, experienced difficulty initiating or maintaining sleep at least three nights per week, had symptoms for a minimum duration of three months, had adequate opportunity for sleep, scored more than 5 on the Pittsburgh Sleep Quality Index, scored at least 10 on the Insomnia Severity Index and were willing to follow the prescribed regimen and maintain a sleep diary.

Participants were excluded if they had obstructive sleep apnoea, restless legs syndrome, narcolepsy, parasomnia, bipolar disorder, psychosis, active suicidal ideation, severe depression, severe substance-use disorder, uncontrolled endocrine disease, epilepsy, major cardiopulmonary illness, serious neurological disease, night-shift work, recent major change in psychotropic medication, or regular participation in a structured Yoga or behavioural insomnia programme.

4.7 Randomization and masking

A computer-generated random sequence was used for allocation. Sequentially numbered, opaque, sealed envelopes were used to conceal group assignment. Participant blinding was not feasible because of the nature of the intervention. Outcome assessors and data analysts used coded group information.

5. Intervention

5.1 Swasthavritta-based regimen for Group A

Participants in Group A received a comprehensive eight-week programme. They were instructed to maintain a fixed waking time and to avoid extending their time in bed after a

poor night of sleep. Bedtime was based on natural sleepiness rather than an artificially early schedule. Prolonged daytime sleep was discouraged and unavoidable naps were limited to approximately 20–30 minutes during the early afternoon.

The morning routine included exposure to natural light for approximately 20–30 minutes, gentle mobility practices, and regular daytime activity. Although classical *Dinacaryā* recommends waking during *Brahmamuhūrta*, very early waking was not imposed on participants who were already sleep deprived. Adequate sleep opportunity and individual suitability were given priority.

Dietary guidance focused on regular meal timing, completion of dinner two to three hours before bedtime, and consumption of a light, warm, freshly prepared, and easily digestible evening meal. Participants were asked to avoid very heavy, oily, spicy and late-night food. Caffeine, nicotine, energy drinks, and excessive refined sugar were restricted during the latter part of the day. Alcohol was not permitted as a sleep-promoting measure. The dietary advice was modified according to *Agni*, *Koṣṭha*, food tolerance, constitution and comorbid conditions.

Moderate physical activity for approximately 30 minutes on at least five days per week was encouraged. Activities included brisk walking, gentle aerobic exercise, and Yoga-based mobility. Strenuous activity near bedtime was discouraged.

The Yoga component lasted approximately 35–45 minutes and included centring, gentle joint movements, *Tāḍāsana*, supported *Vṛkṣāsana*, *Vajrāsana*, *Śaśāṅkāsana*, *Makarāsana*, gentle *Pavanamuktāsana*, *Śavāsana*, *Nāḍīśodhana* without breath retention, *Bhrāmarī* and breath-based mindfulness. The sequence was modified according to physical capacity and comorbidities.

A guided Yoga Nidrā session of 15–20 minutes was practised during the evening. The participants were instructed to use Yoga Nidrā as a method of systematic relaxation rather than as an effort to force sleep.

Gentle self-administered *Padābhyanga* was performed for five to ten minutes during the evening using a suitable oil. Participants with active skin disease, open wounds, marked neuropathy, oil sensitivity or a high risk of falling were advised to avoid the procedure.

Digital and sensory regulation formed another important part of the intervention. Participants stopped non-essential screen use 60–90 minutes before bedtime, reduced exposure to bright artificial light, kept mobile devices away from the bed, and avoided distressing or highly stimulating content before sleep.

Behavioural sleep guidance included using the bed mainly for sleep, leaving the bed temporarily when unable to sleep for a prolonged period, returning only when sleepiness reappeared, avoiding clock-watching, maintaining a stable waking time, and avoiding compensatory daytime sleep. Participants also maintained a daily sleep diary and were counselled regarding exaggerated beliefs about the consequences of poor sleep.

The psychological component was based on *Sadvṛtta* and included gratitude journaling, scheduled worry time during the early evening, non-judgemental observation of thoughts, moderation of work and sensory stimulation, avoidance of interpersonal conflict near bedtime, and supportive counselling where required.

5.2 Sleep-hygiene intervention for Group B

Participants in Group B received standardized advice regarding regular sleep timing, avoidance of caffeine near bedtime, maintenance of a comfortable sleep environment, regular daytime exercise and avoidance of heavy late-night meals. They did not receive individualized Swasthavritta planning, supervised Yoga, Yoga Nidrā, *Padābhyanga*, detailed behavioural sleep training, or structured psychological reinforcement.

6. Outcome Measures

The Pittsburgh Sleep Quality Index was used to assess subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction.^[26]

The Insomnia Severity Index was used to evaluate difficulty falling asleep, difficulty maintaining sleep, early awakening, dissatisfaction with sleep, daytime interference, noticeability of impairment, and distress related to sleep disturbance.^[27]

Psychological well-being was assessed using the WHO-5 Well-Being Index.^[28] Anxiety was measured through the anxiety subscale of the Depression Anxiety Stress Scales-21.^[29] A seven-day sleep diary was used to document bedtime, sleep-onset latency, nocturnal awakenings, final awakening, total sleep time, time in bed, and sleep efficiency.^[30]

Ayurvedic symptoms such as *Aṅgamarda*, *Śirogaurava*, *Jṛmbhikā*, *Jāḍya*, *Glāni*, *Bhrama*, *Apakti*, and *Tandrā* were also recorded using a predefined ordinal clinical scale.

7. Statistical analysis

Data were analysed according to the intention-to-treat principle. Continuous variables were presented as mean and standard deviation, while categorical variables were expressed as frequency and percentage. Within-group change was assessed using paired statistical methods, whereas between-group comparisons were performed using independent-samples analysis and repeated-measures methods. Group-by-time interaction was examined to determine whether the magnitude of change differed between the two groups. A two-sided *P* value below 0.05 was regarded as statistically significant.

8. RESULTS

8.1 Participant flow

One hundred individuals were screened, of whom 40 were excluded. The final study population consisted of 60 participants. Thirty participants were assigned to Group A and 30 to Group B.

8.2 Baseline comparability

The two groups were comparable at baseline in terms of age, sex distribution, duration of insomnia, Pittsburgh Sleep Quality Index score, Insomnia Severity Index score, psychological well-being, anxiety, and sleep efficiency. No significant baseline imbalance was observed.

8.3 Sleep quality

The mean Pittsburgh Sleep Quality Index score in Group A declined from 14.2 ± 2.4 at baseline to 6.1 ± 2.0 after eight weeks. This represented a mean reduction of 8.1 points. In Group B, the score decreased from 13.9 ± 2.3 to 10.8 ± 2.2 , corresponding to a mean reduction of 3.1 points. The improvement was significantly greater in Group A than in Group B.

8.4 Insomnia severity

The mean Insomnia Severity Index score in Group A decreased from 19.6 ± 3.1 to 7.8 ± 2.9 , with a mean reduction of 11.8 points. Group B demonstrated a reduction from 19.1 ± 3.0 to

14.2 ± 3.2, with a mean change of 4.9 points. The between-group difference was statistically significant.

8.5 Psychological well-being

The mean WHO-5 score in Group A increased from 38.6 ± 11.4 at baseline to 69.3 ± 10.8 after treatment. In Group B, the score increased from 39.4 ± 10.9 to 52.1 ± 11.7. The improvement in positive psychological well-being was significantly greater among participants receiving the Swasthavritta-based regimen.

8.6 Anxiety

The mean DASS-21 anxiety score in Group A declined from 14.1 ± 4.0 to 6.2 ± 3.1. Group B showed a smaller reduction from 13.8 ± 3.8 to 10.9 ± 3.5. The difference in improvement between the two groups was statistically significant.

8.7 Sleep efficiency

Sleep efficiency in Group A increased from 67.4 ± 8.2% to 84.6 ± 6.7%. Group B demonstrated an increase from 68.1 ± 7.9% to 74.2 ± 7.1%. The improvement was significantly greater in Group A.

8.8 Summary of outcome changes

Outcome	Group A baseline	Group A Week 8	Group B baseline	Group B Week 8
PSQI	14.2 ± 2.4	6.1 ± 2.0	13.9 ± 2.3	10.8 ± 2.2
ISI	19.6 ± 3.1	7.8 ± 2.9	19.1 ± 3.0	14.2 ± 3.2
WHO-5	38.6 ± 11.4	69.3 ± 10.8	39.4 ± 10.9	52.1 ± 11.7
DASS-21 anxiety	14.1 ± 4.0	6.2 ± 3.1	13.8 ± 3.8	10.9 ± 3.5
Sleep efficiency (%)	67.4 ± 8.2	84.6 ± 6.7	68.1 ± 7.9	74.2 ± 7.1

8.9 Ayurvedic symptoms and daytime functioning

Participants in Group A demonstrated a greater reduction in body ache, heaviness of the head, yawning, sluggishness, exhaustion, dizziness, indigestion and daytime drowsiness. They also reported better morning freshness, improved concentration, greater emotional stability, improved occupational functioning, and increased motivation.

8.10 Safety and adherence

The regimen was generally well tolerated. No serious intervention-related adverse event was observed. A small number of participants experienced temporary muscular discomfort during

the initial Yoga sessions or difficulty in adapting to a fixed waking schedule. These complaints resolved with appropriate modification and counselling.

9. DISCUSSION

The present study demonstrated that an integrated Swasthavritta-based regimen produced greater improvement in sleep quality, insomnia severity, psychological well-being, anxiety and sleep efficiency than sleep-hygiene education alone.

The marked reduction in Pittsburgh Sleep Quality Index and Insomnia Severity Index scores suggests that the intervention influenced both nocturnal sleep disturbance and the daytime consequences of insomnia. Although Group B also improved, the magnitude of change was smaller. This may reflect the limited effect of general sleep-hygiene advice when compared with a structured multimodal intervention.

The improvement in sleep quality may be attributed to the combined influence of regular sleep-wake timing, reduced digital exposure, appropriate meal timing, moderate physical activity, Yoga, behavioural sleep guidance, and relaxation practices. Stable waking time and morning light exposure may have strengthened circadian regularity. Avoidance of excessive time in bed and reduction of wakeful activity in the sleeping environment may have helped restore the association between bed and sleep.

The decline in insomnia severity may also be explained by reduced psychological and physiological hyperarousal. Chronic insomnia is frequently maintained by worry, fear of sleeplessness, repeated monitoring of time and persistent attempts to force sleep. The behavioural instructions, mindfulness practices, and scheduled worry time may have reduced this cycle of anticipatory anxiety.

The improvement in psychological well-being and reduction in anxiety is clinically important because insomnia and emotional distress often reinforce one another. Better sleep may improve emotional regulation, while reduced anxiety may facilitate sleep initiation and maintenance. The combination of Yoga, *Prāṇāyāma*, Yoga Nidrā, and *Sadvṛtta*-based counselling may have acted on both dimensions.

Yoga may have contributed through gentle physical activity, breath regulation, interoceptive awareness, reduction of muscular tension, and autonomic calming. Previous systematic

reviews have reported improvement in subjective sleep quality following Yoga-based interventions.^[17,18]

Yoga Nidrā may have supported systematic relaxation and disengagement from intrusive thought. Earlier studies have reported potential benefit in chronic insomnia and stress-related symptoms.^[19–21] However, as the present intervention was multimodal, the independent effect of Yoga Nidrā cannot be separated from the other components.

Padābhyanga may have provided tactile comfort, reduced somatic tension, and established a consistent pre-sleep relaxation ritual. Ayurveda traditionally associates the practice with stabilization of *Vāta* and promotion of sleep. Nevertheless, specific conclusions regarding its independent efficacy cannot be drawn from the present study.

From an Ayurvedic perspective, chronic insomnia may involve aggravated *Vāta*, aggravated *Pitta*, reduced *Kapha*, increased *Rajas*, impaired *Agni*, irregular daily conduct and excessive sensory engagement. The Swasthavritta-based regimen introduced stability, moderation, nourishment, relaxation, regularity, and mental discipline. These measures may have reduced the factors that perpetuate *Anidrā*.

The reduction in *Aṅgamarda*, *Śirogaurava*, *Jṛmbhikā*, *Jāḍya*, *Glāni* and *Tandrā* was consistent with improved sleep restoration and daytime functioning. Improvement in *Apakti* may have resulted from more regular meal timing and lighter evening food.

The study also demonstrates the relevance of combining Ayurvedic lifestyle principles with contemporary behavioural sleep science. The Ayurvedic framework provided a broad model of daily regulation, while modern behavioural principles contributed standardized sleep scheduling, stimulus control and structured outcome assessment.

10. Strengths

The major strengths of the study were the randomized controlled design, equal allocation of participants, use of validated sleep and psychological measures, structured intervention protocol, assessment of both nocturnal and daytime outcomes and integration of Ayurvedic and contemporary behavioural principles.

11. Limitations

The study had several limitations. Blinding of participants and instructors was not possible. Most outcomes were based on self-report. The intervention consisted of several components, making it difficult to identify the contribution of each individual practice. The sample size was moderate, the study was conducted at a single centre, and the intervention period was limited to eight weeks. Long-term maintenance of improvement was not evaluated. In addition, the Ayurvedic symptom scale requires formal psychometric validation.

12. CONCLUSION

The findings suggest that an eight-week Swasthavritta-based regimen may be more effective than standardized sleep-hygiene education in improving sleep quality, reducing insomnia severity, increasing psychological well-being, lowering anxiety, and improving sleep efficiency in patients with chronic insomnia.

The intervention appears to work through the combined effects of regular daily routine, appropriate meal timing, physical activity, sensory regulation, Yoga, Yoga Nidra, *Padābhyanga*, behavioural sleep practices and mental discipline.

The regimen may be considered a feasible, culturally relevant, low-cost, and non-pharmacological adjunct in the management of chronic insomnia. Larger multicentre trials using objective sleep measures, longer follow-up periods, and validated Ayurvedic outcome instruments are required to confirm these findings.

REFERENCES

1. American Academy of Sleep Medicine. *International classification of sleep disorders*. 3rd ed, text revision. Darien: American Academy of Sleep Medicine; 2023.
2. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5th ed, text revision. Washington, DC: American Psychiatric Association Publishing; 2022.
3. Morin CM, Benca R. Chronic insomnia. *Lancet*, 2012; 379: 1129–41.
4. Spielman AJ, Caruso LS, Glovinsky PB. A behavioral perspective on insomnia treatment. *Psychiatr Clin North Am*. 1987; 10: 541–53.
5. Riemann D, Spiegelhalder K, Feige B, Voderholzer U, Berger M, Perlis M, et al. The hyperarousal model of insomnia: A review of the concept and its evidence. *Sleep Med Rev*, 2010; 14: 19–31.

6. Baglioni C, Battagliese G, Feige B, Spiegelhalder K, Nissen C, Voderholzer U, et al. Insomnia as a predictor of depression: A meta-analytic evaluation of longitudinal epidemiological studies. *J Affect Disord*, 2011; 135: 10–9.
7. Hertenstein E, Feige B, Gmeiner T, Kienzler C, Spiegelhalder K, Johann A, et al. Insomnia as a predictor of mental disorders: A systematic review and meta-analysis. *Sleep Med Rev*, 2019; 43: 96–105.
8. Wilt TJ, MacDonald R, Brasure M, Olson CM, Carlyle M, Fuchs E, et al. Pharmacologic treatment of insomnia disorder: An evidence report for a clinical practice guideline. *Ann Intern Med*, 2016; 165: 103–12.
9. Qaseem A, Kansagara D, Forcica MA, Cooke M, Denberg TD. Management of chronic insomnia disorder in adults. *Ann Intern Med*, 2016; 165: 125–33.
10. Edinger JD, Arnedt JT, Bertisch SM, Carney CE, Harrington JJ, Lichstein KL, et al. Behavioral and psychological treatments for chronic insomnia disorder in adults. *J Clin Sleep Med*, 2021; 17: 255–62.
11. Trauer JM, Qian MY, Doyle JS, Rajaratnam SMW, Cunnington D. Cognitive behavioral therapy for chronic insomnia: A systematic review and meta-analysis. *Ann Intern Med*, 2015; 163: 191–204.
12. Furukawa Y, Sakata M, Yamamoto R, Nakajima S, Kikuchi S, Inoue M, et al. Components and delivery formats of cognitive behavioral therapy for chronic insomnia in adults. *JAMA Psychiatry*, 2024; 81: 357–65.
13. Agniveśa. *Caraka Saṃhitā*, Sūtrasthāna 11/35. Revised by Caraka and Dṛḍhabala. Varanasi: Chowkhamba Sanskrit Series Office.
14. Agniveśa. *Caraka Saṃhitā*, Sūtrasthāna 21/35–44. Revised by Caraka and Dṛḍhabala. Varanasi: Chowkhamba Sanskrit Series Office.
15. Vāgbhaṭa. *Aṣṭāṅga Hṛdaya*, Sūtrasthāna 2. Varanasi: Chowkhamba Krishnadas Academy.
16. Vāgbhaṭa. *Aṣṭāṅga Hṛdaya*, Sūtrasthāna 7/64–66. Varanasi: Chowkhamba Krishnadas Academy.
17. Wang WL, Chen KH, Pan YC, Yang SN, Chan YY. The effect of Yoga on sleep quality and insomnia in women with sleep problems. *BMC Psychiatry*, 2020; 20: 195.
18. Xie Y, Liu S, Chen XJ, Yu HH, Yang Y, Wang W. Effects of exercise on sleep quality and insomnia in adults. *Front Psychiatry*, 2021; 12: 664499.
19. Datta K, Tripathi M, Verma M, Masiwal D, Mallick HN. Yoga Nidra practice shows improvement in sleep in patients with chronic insomnia. *Natl Med J India*, 2021; 34: 143–50.

20. Sharpe E, et al. A closer look at Yoga Nidra: Early randomized sleep laboratory evidence. *J Integr Complement Med*, 2023; 29: 199–207.
21. Pandi-Perumal SR, Spence DW, Srivastava N, Kanchibhotla D, Kumar K, Sharma GS, et al. The origin and clinical relevance of Yoga Nidra. *Sleep Vigil*, 2022; 6: 61–84.
22. Pokharel S, Sharma AK. Evaluation of Insomrid tablet and Shirodhara in the management of Anidra. *Ayu*, 2010; 31: 40–7.
23. Toolika E, Bhat NP, Shetty SK. A comparative clinical study on the effect of Tagara and Jatamansi in the management of Anidra. *Ayu*, 2015; 36: 46–9.
24. Lad A, et al. Effects of Mamsyadi Kwatha in primary insomnia: A randomized comparative clinical study. *J Ayurveda Integr Med*, 2023; 14: 100788.
25. Kedar NA, et al. Efficacy of Mamsyadi Ghana capsule in insomnia disorder. *J Ayurveda Integr Med*, 2024; 15: 100938.
26. Buysse DJ, Reynolds CF 3rd, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh Sleep Quality Index. *Psychiatry Res*. 1989; 28: 193–213.
27. Bastien CH, Vallières A, Morin CM. Validation of the Insomnia Severity Index. *Sleep Med*, 2001; 2: 297–307.
28. Topp CW, Østergaard SD, Søndergaard S, Bech P. The WHO-5 Well-Being Index. *Psychother Psychosom*, 2015; 84: 167–76.
29. Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety Stress Scales*. 2nd ed. Sydney: Psychology Foundation of Australia; 1995.
30. Carney CE, Buysse DJ, Ancoli-Israel S, Edinger JD, Krystal AD, Lichstein KL, et al. The consensus sleep diary. *Sleep*, 2012; 35: 287–302.
31. Nayak K, et al. Yoga-Nidra as a mental health booster: A narrative review. *J Ayurveda Integr Med*, 2023; 14: 100740.
32. Ong JC, Manber R, Segal Z, Xia Y, Shapiro S, Wyatt JK. A randomized controlled trial of mindfulness meditation for chronic insomnia. *Sleep*, 2014; 37: 1553–63.
33. Walker J, Muench A, Perlis ML, Vargas I. Cognitive behavioral therapy for insomnia: A primer. *Klin Spec Psihol*, 2022; 11: 123–37.
34. Khalsa SBS, et al. Treatment of chronic primary sleep-onset insomnia with Kundalini Yoga. *J Clin Sleep Med*, 2021; 17: 1845–56.
35. Halpern J, Cohen M, Kennedy G, Reece J, Cahan C, Baharav A. Yoga for improving sleep quality and quality of life for older adults. *Altern Ther Health Med*, 2014; 20: 37–46.
36. Cramer H, Lauche R, Langhorst J, Dobos G. Yoga for depression: A systematic review and meta-analysis. *Depress Anxiety*, 2013; 30: 1068–83.

37. Cramer H, Lauche R, Anheyer D, Pilkington K, de Manincor M, Dobos G, et al. Yoga for anxiety. *Depress Anxiety*, 2018; 35: 830–43.
38. Morin CM, Drake CL, Harvey AG, Krystal AD, Manber R, Riemann D, et al. Insomnia disorder. *Nat Rev Dis Primers*, 2015; 1: 15026.
39. Perlis ML, Jungquist C, Smith MT, Posner D. *Cognitive behavioral treatment of insomnia: A session-by-session guide*. New York: Springer; 2005.
40. Sateia MJ, Buysse DJ, Krystal AD, Neubauer DN, Heald JL. Clinical practice guideline for pharmacologic treatment of chronic insomnia in adults. *J Clin Sleep Med*, 2017; 13: 307–49.