



Role of Yoga in Improving Sleep Quality: A Review of Classical Concepts and Modern Evidence

Dr. Swami Niwrati Bhagwanrao¹, Dr. Prafull Vasantrao Kotalwar², Dr. Sheetal M. Bansode³

¹ Professor, Department of Swasthavritta & Yoga, Government Ayurvedic College, Dharashiv, Maharashtra, India – 413501. Email: drnbswami@gmail.com

² Assistant Professor, Department of Swasthavritta & Yoga, Government Ayurvedic College, Dharashiv, Maharashtra, India – 413501. Email: prafullkotalwar@gmail.com

³ Associate Professor, Department of Swasthavritta & Yoga, Government Ayurvedic College, Dharashiv, Maharashtra, India – 413501. Email: sheetalbansode8040@gamil.com

Abstract

Inadequate sleep commonly results in fatigue, poor concentration, and reduced ability to carry out everyday responsibilities. Yoga is frequently recommended for relaxation, yet its contribution to sleep management requires critical appraisal. This narrative review integrates classical descriptions of sleep and regulation of mental activity with contemporary yoga research and current insomnia guidance. It is based on selected literature and focused verification of major claims rather than a comprehensive systematic search. Ayurveda regards sleep as a fundamental contributor to health, whereas the Yoga Sutras discuss posture, breath regulation, and disciplined attention. These concepts provide a historical rationale for practice but cannot themselves demonstrate clinical efficacy. Modern reviews indicate that some adults report improved sleep quality after yoga; however, findings vary with the population, intervention, and assessment tool. Better perceived sleep does not necessarily correspond to a meaningful reduction in insomnia severity. Research on Yoga Nidra is particularly uncertain because participant numbers are small and many studies have methodological weaknesses. Relaxation, physical

movement, and a more regular daily routine may contribute to benefit, although the responsible mechanisms remain unconfirmed. For suitable individuals, an adapted yoga routine may complement usual care. It should neither postpone evaluation of persistent symptoms nor replace established insomnia treatment. Future trials require standardized descriptions of practice, credible comparison groups, longer observation, and a combination of patient-reported and objectively measured outcomes.

Keywords: Yoga; sleep quality; insomnia; *Yoga Nidra*; relaxation; meditation.

Introduction

One disturbed night can impair functioning the following day. When poor sleep becomes persistent, fatigue and reduced attention may interfere with employment, education, relationships, and household responsibilities. Insomnia is characterized by trouble initiating sleep, maintaining sleep, or obtaining restorative sleep despite adequate opportunity. It is therefore distinct from voluntarily or unavoidably restricting the time available for sleep.[1]

The nature and context of a sleep complaint should be clarified before management begins. Emotional stress, irregular schedules, medical illness, and medication use are among the possible contributors. In adults with chronic insomnia, the American Academy of Sleep Medicine recommends multicomponent cognitive behavioural therapy for insomnia (CBT-I). Advice about sleep habits on its own is not regarded as sufficient treatment.[2]

Yoga combines bodily movement with breath awareness, relaxation, and attentional training. These features make it relevant to research on sleep, particularly when arousal, worry, or muscular tension accompanies the complaint. Nevertheless, feeling calmer after a session does not show that the underlying sleep disorder has been treated. The present review therefore considers the traditional rationale and the clinical evidence as related but distinct questions.

Aim and review approach

This review aims to relate classical yoga concepts to sleep, critically summarize selected clinical evidence, and outline a careful, supportive role for yoga within routine sleep care.

A selective narrative approach was used. Classical material concerning sleep, posture, breathing, and attention was examined alongside clinical trials, systematic reviews, and official recommendations. Focused searches combined terms relating to yoga, insomnia, Yoga Nidra, sleep quality, and mind-body interventions. Bibliographic entries, accessible abstracts, and available source documents were reviewed. Traditional accounts were interpreted separately from empirically tested outcomes. No original patient information was collected, and the authors did not undertake a new meta-analysis or formal risk-of-bias evaluation. Consequently, this article should not be considered an exhaustive systematic review.

Classical views of sleep and yoga

Ayurvedic literature uses the term Nidra for sleep. In the Charaka Samhita, appropriate sleep is discussed as an important determinant of nourishment, strength, and well-being. Sutra Sthana chapter 21 further recognizes that both sleep duration and timing influence health.[3] Thus, classical discussion treats sleep as an active component of daily care rather than unproductive time.

Patanjali presents yoga in relation to calming or regulating mental activity. The traditional eight-limbed scheme comprises Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, and Samadhi. It describes a posture that is stable and comfortable, regulation of breathing, withdrawal from distracting sensory input, and progressive direction of attention toward a selected object.[4]

These ideas can be related cautiously to the familiar experience of remaining awake while thoughts repeatedly demand attention. A calm environment and uncomplicated point of focus may reduce continued engagement with each concern. This is a contemporary practical interpretation, not evidence that classical accounts of the mind are equivalent to modern diagnostic categories or physiological measures of sleep.

General yoga and sleep quality

Wang et al. synthesized 49 studies comprising 4,506 participants and interventions such as yoga, meditation, tai chi, and qigong. Pooled results favoured mind-body approaches for self-reported sleep quality and symptoms of insomnia, whereas measures of sleep quantity did not improve. Because multiple practices were analysed together, the overall estimate cannot be attributed specifically to yoga.[5]

A separate review concentrated on women experiencing sleep difficulties and included 19 studies with 1,832 participants. Scores on the Pittsburgh Sleep Quality Index (PSQI) indicated improvement, but the smaller subset using the Insomnia Severity Index (ISI) did not demonstrate a clear effect. Several subgroup analyses were likewise inconclusive.[6] This difference is clinically relevant because perceived improvement in sleep does not necessarily indicate remission or meaningful reduction of insomnia.

A scoping review published in 2025 mapped 57 investigations of repeated yoga practice among people with sleep-related complaints. The evidence base consisted of 40 randomized trials, four nonrandomized controlled studies, and 13 uncontrolled studies. Although favourable outcomes were frequently reported, there was substantial variation in populations, yoga protocols, and research methods.[7] Scoping reviews describe the breadth of available literature; a simple count of positive reports

cannot establish the magnitude or dependability of benefit.

Trials in people with insomnia

Verma et al. randomly assigned 120 adults aged 18–45 years to yoga, an Ayurvedic intervention, or a control arm. Outcomes were recorded at baseline and on day 48 in this open-label study, and the per-protocol analysis included 112 completers. The investigators reported improvement in sleep and other measures in the yoga group.[8] However, brief follow-up, absence of blinding, and reliance on completer analysis restrict confidence in the findings. The results should also not be extrapolated automatically to children or older people.

In 2026, a network meta-analysis compared exercise-based interventions across 22 randomized trials with a combined sample of 1,348 participants. Yoga produced favourable estimates for several diary-derived sleep outcomes relative to active comparators. The certainty of evidence was not uniform, and these estimates relied on participants' records rather than laboratory sleep measurements.[9] The analysis encourages further investigation but cannot support the assumption that all forms of yoga have equivalent effects.

Yoga Nidra

Yoga Nidra is generally delivered as a guided sequence of relaxation and directed awareness while the practitioner rests comfortably. Despite the common label 'yogic sleep,' the practice is not the same as physiological nocturnal sleep. Dutta et al. reviewed six randomized trials involving 244 participants drawn from varied occupational and clinical settings. Most reports were favourable, but heterogeneity, moderate-to-high risk of bias, and limited reporting of adverse events were important concerns.[10]

Singh et al. conducted another review whose pooled analyses represented five distinct studies. Across randomized comparisons, neither PSQI nor ISI scores showed a statistically clear advantage. Small samples and other methodological concerns led the authors to rate certainty as very low.[11] Collectively, the two reviews suggest that benefit remains possible, but they do not justify describing Yoga Nidra as a proven independent treatment for insomnia.

How yoga might help

Several potential explanations deserve consideration. Mild physical activity may reduce bodily tension, while comfortable breath awareness can interrupt repetitive worry. Practicing at a regular time may also establish a predictable quiet period before bed. These mechanisms are plausible proposals rather than confirmed explanations for the sleep-related changes observed in trials.[7]

Yoga interventions contain multiple inseparable influences. Participants may respond to exercise, instructor attention, social contact, scheduled rest, or their expectation of improvement. When the comparison group receives no added activity, these contextual effects cannot be distinguished adequately from effects unique to yoga. Comparators that provide similar time, attention, and support are therefore methodologically valuable.

Biological claims involving hormones, electroencephalographic activity, or autonomic regulation require direct measurement and appropriately controlled research. Improvement on a questionnaire cannot independently verify such a mechanism. The first priority is to establish whether the intervention produces a clinically worthwhile and sustained benefit; mechanistic studies can then investigate which elements may account for it.

Assessing improvement in sleep

Each sleep measure captures a different aspect of the problem. PSQI reflects perceived sleep quality, whereas ISI evaluates insomnia symptoms together with their daytime consequences. Nightly sleep diaries provide the individual's estimates of sleep over time. Although diaries are recorded repeatedly, they remain patient-reported measures, as are PSQI and ISI. [6,9]

Actigraphy estimates patterns of rest and activity from movement recorded over several days. When symptoms suggest conditions such as sleep apnea, a formal sleep study may be clinically appropriate. Test selection should follow the clinical question and individual history.[12] Yoga research should distinguish explicitly between subjective reports and instrument-derived outcomes. Feeling refreshed is meaningful to patients, but it does not prove alteration of sleep architecture or nocturnal breathing.

Choosing suitable practices

Practices involving Asana, Pranayama, and attention can be modified according to mobility, health, and comfort. Traditionally, Asana addresses stable posture, Pranayama regulates breath, Pratyahara redirects attention from sensory input, and Dharana and Dhyana develop focused and sustained awareness.[4] Incorporating these elements into an evening routine is a modern practical application rather than a standardized classical prescription for insomnia.

A gentle sequence may be more acceptable than physically demanding practice. Supported Balasana, Supta Baddha Konasana, uncomplicated stretching, or comfortable seated movement are possible examples. The reviewed literature does not identify one posture as the most effective treatment for insomnia. New practitioners should receive instruction from a suitably qualified teacher who can modify positions and minimize strain.[13]

Breath practices should feel comfortable and unforced. Slowly paced breathing, Nadi Shodhana, or mild Bhramari may be considered when appropriately taught and well tolerated. Neither maximal breath duration nor an extreme stretch is the purpose. Dizziness, discomfort, or distress is a reason to stop and modify the exercise. Forceful breathing methods and advanced postures are inappropriate as initial practices.[13]

Table 1 presents optional elements that may be combined according to individual needs. The durations are illustrative planning ranges and should not be interpreted as trial-validated therapeutic doses. It is neither necessary nor advisable for every person to perform every component.

Table 1 Optional components of a gentle yoga routine

Component	Illustrative time	Practical purpose
Quiet sitting	3–5 minutes	Adopt an easy position and allow attention to settle on natural breathing.
Gentle stretching	5–10 minutes	Explore pain-free movement without pushing to the end of the range.

Component	Illustrative time	Practical purpose
Selected Asana	10–15 minutes	Use a small number of comfortable postures, adding support where required.
Slow breathing	5–10 minutes	Maintain a smooth, relaxed rhythm without deliberate strain.
Nadi Shodhana	Approximately 5 minutes	Practise mild alternate-nostril breathing only after suitable instruction.
Bhramari	3–5 minutes	Produce a quiet humming exhalation while keeping the face and throat relaxed.
Meditation	5–10 minutes	Gently redirect wandering attention toward one uncomplicated focus.
Yoga Nidra	10–20 minutes	Use a guided relaxation sequence while resting in a supported position.

Note: The framework is illustrative and has not been validated as a treatment schedule. Components may overlap, and a single session need not include them all.

Yoga alongside usual sleep care

Consistent waking time, an appropriate bedroom environment, and thoughtful management of caffeine, alcohol, and late-evening habits remain useful aspects of care. Recommendations must also be realistic within a person's employment and family obligations.[14] A yoga routine should simplify and support care rather than become another source of pressure at bedtime.

CBT-I is an established intervention for chronic insomnia. Through a structured programme, it addresses sleep-related behaviours and unhelpful patterns of thinking. Relaxation strategies may contribute to management, but yoga or general sleep-hygiene education should not be portrayed as an equivalent substitute for full CBT-I.[2] Prescribed medicines should be reviewed with the treating

clinician and not discontinued solely because yoga practice has started.

Ongoing insomnia, habitual loud snoring, episodes of gasping, or prominent daytime sleepiness requires clinical assessment. Evaluation may reveal another sleep disorder, a medical or mental health condition, or a medication-related cause.[12] Yoga cannot establish the diagnosis behind these symptoms.

Safety and different age groups

Appropriately supervised yoga is generally regarded as safe, although musculoskeletal strain and other injuries remain possible. Pregnancy, older age, existing injury, and chronic illness may require changes to posture or breathing practice. Advice from a trained instructor and the treating clinician can help determine an appropriate and safe approach.[13]

Findings from adult trials cannot be applied directly to paediatric populations. Children may participate in brief, enjoyable, developmentally appropriate relaxation activities, but the evidence reviewed here does not establish a yoga treatment protocol for childhood insomnia. Persistent paediatric sleep difficulty requires assessment that accounts for age, development, and family routines. A similar caution applies to frail older adults: individualized low-intensity practice may be feasible, yet its effect on sleep needs direct evaluation.

Research needs

Future research should specify the content of each session, practice frequency, duration, instructor input, and expected home practice. The label 'yoga' alone provides too little information for replication. Investigators should also document adherence, medication changes, withdrawals, adverse events, and deterioration rather than reporting improvement alone.

A useful study could recruit adults meeting explicit criteria for chronic insomnia and follow them for 8–12 weeks. Both arms should retain access to identical usual care, including CBT-I when clinically indicated. Participants in the intervention arm could receive a reproducible yoga programme, while the comparator arm receives an activity matched for instructor contact and time. Such a design would evaluate yoga's added contribution without denying established therapy.

The primary endpoint and the threshold for clinically meaningful change should be prespecified. ISI or PSQI may be combined with daily diaries and actigraphy, while polysomnography can be reserved for defined clinical or mechanistic questions. Post-intervention follow-up would reveal whether gains persist after supervised sessions cease. Wherever feasible, analyses should retain all randomized participants and outcome assessors should remain blinded to assignment.

Discussion

Classical sources and clinical research answer different questions. Traditional texts locate sleep, posture, breathing, and attention within broader systems of health and practice. Clinical trials determine whether a precisely described intervention changes a defined outcome. Interpretation becomes misleading when either type of knowledge is treated as a substitute for the other.

The current evidence supports a measured discussion with patients rather than a firm therapeutic claim. Some adults experience better subjective sleep after yoga, but responses are inconsistent and evidence for reducing clinical insomnia is weaker. Because reviews may contain overlapping primary trials, their sample totals cannot be combined as though they represent separate evidence. Practical value also depends on acceptability, sustained participation, safety, and meaningful daytime benefit, not merely statistical significance.

This article is constrained by its selective narrative method and by weaknesses in the underlying studies. It offers neither a new systematic search nor a pooled estimate or formal certainty grading. The conclusions are therefore limited to the cited evidence and will require reconsideration as larger, methodologically stronger trials emerge.

Conclusion

Yoga may assist some adults in relaxing and may improve their perception of sleep. When appropriate to the individual, gentle movement, unforced breathing, and guided attention can complement conventional care. Current evidence neither identifies a universally superior routine nor establishes Yoga Nidra as a dependable insomnia treatment. Persistent symptoms require clinical evaluation, and established management for chronic insomnia should continue. More standardized interventions, stronger

comparators, objective outcome measures, and longer follow-up are necessary before more definitive claims can be supported.

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