

Yoga for Insomnia and Sleep Disturbances Among Perimenopausal and Postmenopausal Women: A Scoping Review

Jenviv kavitha, DR SANGEETHA, Vinutha M
PROFESSOR, ASSOCIATE PROFESSOR

SRINIVAS UNIVERSITY, MUKKA MANGALORE, SRINIVAS UNIVERSITY

Abstract

This scoping review addresses yoga as a non-pharmacological approach for insomnia and sleep disturbances among perimenopausal and postmenopausal women. Sleep problems are common during the menopausal transition and may be associated with vasomotor symptoms, psychological distress, impaired daytime functioning, and reduced quality of life. Existing evidence suggests that yoga may improve sleep and menopausal symptoms, but findings vary according to population, intervention characteristics, duration, comparator, and outcome measurement. The objective of this review is to map the available evidence on yoga interventions for insomnia, poor sleep quality, and related sleep disturbances in perimenopausal and postmenopausal women, with particular attention to intervention type and dose, delivery setting, sleep outcomes, measurement instruments, associated menopausal and psychological outcomes, safety, and research gaps. The review is designed according to the Joanna Briggs Institute methodology for scoping reviews and will be reported in accordance with PRISMA-ScR. Eligibility is structured using the Population–Concept–Context framework. The proposed information sources are PubMed/MEDLINE, Scopus, Web of Science, CINAHL, Embase, PsycINFO, Cochrane Library, Google Scholar, and reference-list screening. Primary studies using quantitative, qualitative, or mixed-methods designs will be considered when they involve perimenopausal or postmenopausal women, evaluate a yoga intervention, and report a sleep-related outcome. The available literature includes randomized and quasi-experimental evidence suggesting potential improvements in insomnia severity or sleep quality, while objective sleep findings are less consistent. This review will provide an evidence map to guide nursing practice, health education, community-based menopause care, and future intervention research.

Keywords: menopause; perimenopause; post menopause; yoga; yoga therapy; insomnia; sleep quality; sleep disturbance; women's health; scoping review

INTRODUCTION

Menopause is a major biological transition in a woman's life and is accompanied by changes in reproductive function, vasomotor regulation, mood, physical health, and sleep. Sleep disturbance may occur as difficulty initiating sleep, repeated nocturnal awakening, early-morning awakening, non-restorative sleep, or poor perceived sleep quality. These symptoms can occur independently or in association with hot flashes, night sweats, anxiety, depressive symptoms, stress, and other menopausal complaints. Persistent sleep disturbance may impair daytime functioning, cognitive performance, emotional well-being, and quality of life.

Insomnia is therefore an important women's health and health-promotion concern. Non-pharmacological interventions are particularly relevant because they can potentially be incorporated into community, primary-care, nursing, and self-management programs. Yoga is a mind-body practice that commonly combines physical postures, breathing exercises, relaxation, and meditation. Plausible mechanisms for sleep-related benefits include reduction of perceived stress, autonomic regulation, relaxation, improved physical functioning, and better psychological well-being.

Evidence specific to menopausal women is heterogeneous. A 2020 systematic review and meta-analysis of 19 studies involving 1,832 women with sleep problems found overall benefits of yoga for sleep, but subgroup analyses of peri/postmenopausal women did not demonstrate statistically significant improvement in PSQI or ISI outcomes. The review identified substantial variation in intervention protocols and outcome measures. [1] Subsequent studies have provided more supportive findings. A randomized clinical trial in postmenopausal women with diagnosed insomnia reported lower insomnia severity following a four-month yoga intervention compared with control and passive stretching groups. [2] A 2022 randomized controlled trial involving 208 women reported significant improvement in sleep quality among perimenopausal and postmenopausal participants after 20 weeks of yoga. [3]

More recent evidence reinforces the need for a focused evidence map rather than a simple efficacy conclusion. A 2024 systematic review and meta-analysis of 13 randomized controlled trials involving 1,649 menopausal women reported no statistically significant pooled effect on total PSQI score, although menopausal symptom scores improved significantly. [4] A 2025 randomized trial of online laughter yoga in 36 menopausal women reported improved PSQI scores and reduced vasomotor symptoms. [5] Objective sleep evidence also remains

uncertain: in a secondary analysis of a randomized trial involving 186 late-transition and postmenopausal women with hot flashes, 12 weeks of yoga did not significantly change most actigraphic sleep parameters, although an exploratory analysis suggested improved sleep stability among women with poorer baseline sleep quality. [6]

These differences justify a scoping review that maps the breadth and characteristics of the literature rather than restricting the evidence to one intervention formulation or one outcome instrument. The review is also relevant to health promotion because yoga can potentially be delivered through community groups, primary-care services, menopause education programs, and home-based self-management. The present manuscript has been revised from the supplied draft to align its terminology, objectives, methodology, and reporting framework with a journal-oriented scoping-review format.

Rationale for the Review

Four considerations support the need for this review. First, sleep disturbance is a clinically and functionally important component of the menopausal experience. Second, yoga is increasingly studied as an accessible mind-body intervention. Third, published studies differ substantially in yoga style, session duration, frequency, treatment period, comparator, and outcome measurement. Fourth, evidence syntheses have produced differing conclusions regarding sleep outcomes in menopausal women. A scoping review can identify where evidence is concentrated, characterize the interventions and populations studied, map the instruments used, and identify gaps that require adequately powered and methodologically rigorous research.

Review Objective

The primary objective is to map the available evidence regarding the use and effects of yoga interventions for insomnia and sleep disturbances among perimenopausal and postmenopausal women.

The specific objectives are to identify:

- (1) characteristics of participating women;
- (2) types and components of yoga interventions;
- (3) intervention duration, frequency and intensity;
- (4) delivery settings and modes;

- (5) instruments used to assess sleep and insomnia;
- (6) reported effects on sleep outcomes;
- (7) effects on menopausal symptoms;
- (8) effects on psychological well-being and quality of life;
- (9) reported adverse events, safety and adherence; and
- (10) evidence gaps and priorities for future research.

Review Question

What is known from the existing literature regarding the use and effects of yoga interventions for insomnia and sleep disturbances among perimenopausal and postmenopausal women?

Sub questions are: What types of yoga have been evaluated? What are the characteristics and dose of the interventions? Which sleep outcomes and measurement tools have been used? What effects have been reported? Do findings differ by menopausal status? What is known about safety and adherence? What gaps remain in the evidence?

Methods

This scoping review is conducted using the Joanna Briggs Institute (JBI) methodology for scoping reviews and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). JBI guidance supports evidence mapping across diverse study designs, while PRISMA-ScR provides reporting standards for transparent presentation of the search, selection, charting, and synthesis processes. [7,8]

Eligibility Framework: Population–Concept–Context

Component	Eligibility
Population	Perimenopausal and postmenopausal women. Studies including mixed menopause-status populations will be eligible when data for perimenopausal/postmenopausal women are separately available or clearly interpretable.

Concept	Yoga-based interventions, including yoga therapy, integrated yoga, yogic practices, and specified forms such as laughter yoga or yoga incorporating postures, breathing, relaxation, or meditation, when the intervention contains a recognizable yoga component.
Context	Any geographical region and any healthcare, community, primary-care, clinic, hospital, yoga-centre, workplace, or home-based setting.

Inclusion Criteria

Studies involving perimenopausal or postmenopausal women.

Studies evaluating a yoga intervention with a defined intervention protocol.

Studies reporting insomnia, sleep quality, sleep disturbance, sleep duration, sleep latency, night time awakening, sleep efficiency, daytime sleepiness, or another clearly specified sleep-related outcome.

Quantitative, qualitative, or mixed-methods primary research.

Peer-reviewed full-text articles available in English.

Studies published within the predefined search period.

Exclusion Criteria

Studies involving only premenopausal women or mixed populations without separately interpretable menopausal data.

Studies evaluating interventions without a yoga component.

Studies that do not report any sleep-related outcome.

Editorials, letters, commentaries, opinion papers, protocols, and conference abstracts without sufficient primary data.

Animal or laboratory studies.

Information Sources and Search Strategy

The planned databases are PubMed/MEDLINE, Scopus, Web of Science, CINAHL, Embase, PsycINFO, and the Cochrane Library. Google Scholar may be used for supplementary searching, citation chasing, and identification of potentially relevant records. Reference lists of included primary studies and relevant evidence syntheses should also be screened.

The preliminary PubMed strategy is: (Menopause[Mesh] OR menopause OR menopausal OR perimenopause OR perimenopausal OR post menopause OR postmenopausal) AND (Yoga[Mesh] OR yoga OR yoga therapy OR yoga Nidra OR yogic OR yoga intervention) AND (Sleep Initiation and Maintenance Disorders[Mesh] OR insomnia OR sleep disturbance* OR sleep problem* OR sleep quality OR sleep disorder* OR poor sleep). Database-specific adaptations should be developed and documented in the final supplementary file.

Study Selection

All retrieved records should be imported into a reference-management and screening platform. Duplicates should be removed before screening. Two reviewers should independently screen titles and abstracts, followed by independent full-text assessment against the predefined eligibility criteria. Disagreements should be resolved by discussion or consultation with a third reviewer. Reasons for full-text exclusion should be recorded and presented in the PRISMA-ScR flow diagram.

Data Charting

A standardized data-charting form should be developed and piloted before full extraction. At minimum, the following fields should be recorded: author and year; country; study design; sample size; age; menopause status; inclusion criteria; intervention type; yoga components; session duration; frequency; total intervention period; delivery mode; comparator; sleep outcome; sleep instrument; secondary outcomes; main findings; adverse events; adherence; and study limitations. Two reviewers should independently chart the data or verify one another's extraction.

Outcomes to Be Mapped

Primary: insomnia severity, global sleep quality, sleep duration, sleep latency, nocturnal awakening, sleep efficiency, daytime sleepiness, and related sleep outcomes.

Secondary: menopausal symptoms, vasomotor symptoms, anxiety, depression, stress, quality of life, psychological well-being, adherence, and adverse events/safety.

Measurement Instruments

Common instruments to be mapped include the Pittsburgh Sleep Quality Index (PSQI), Insomnia Severity Index (ISI), Epworth Sleepiness Scale, sleep diaries, actigraphy, and polysomnography. Menopause-specific measures such as the Menopause Rating Scale and other validated symptom instruments should also be recorded. The distinction between subjective and objective sleep measures is important because intervention effects may differ across these outcome domains.

Evidence Synthesis

Because the purpose of a scoping review is to map the available evidence, a meta-analysis is not required. The final review should summarize the evidence descriptively using frequencies, tables, and narrative synthesis. Studies should be grouped according to menopause status, yoga intervention characteristics, study design, setting, comparator, sleep measurement approach, and direction of findings. Where sufficient information is available, the review may present intervention-dose patterns and areas of evidence concentration. The final manuscript should not convert heterogeneous results into a pooled effect estimate unless a separate systematic-review/meta-analysis methodology is prospectively justified.

Current Evidence Informing the Review

Evidence available for the present manuscript indicates that the literature is heterogeneous and includes both positive and null findings. A 2012 randomized clinical trial by Afonso et al. enrolled postmenopausal women aged 50–65 years with diagnosed insomnia and compared yoga, passive stretching, and control conditions over four months. Among 44 participants who completed the study, the yoga group had lower post-treatment insomnia severity than the control and passive-stretching groups, together with improvements in some menopausal and quality-of-life outcomes. [2]

Susanti et al. conducted a randomized controlled trial involving 208 women, with 104 participants allocated to the intervention and 104 to control. Yoga was practiced for 20 weeks. The study reported significant improvement in sleep quality among perimenopausal and postmenopausal women after adjustment for social support, depression, anxiety, stress, and menopausal symptoms. [3]

In contrast, the 2020 systematic review by Wang et al. found that the peri/postmenopausal subgroup did not show statistically significant improvement in PSQI or ISI. [1] Objective sleep outcomes have also been less consistent. Buchanan et al. reported that 12 weeks of yoga did not significantly change most actigraphic sleep measures in late-transition and postmenopausal women with hot flashes, although an exploratory subgroup finding suggested improved sleep stability among women with poorer baseline sleep quality. [6] More recent evidence continues to support the need for careful mapping. A 2024 systematic-review abstract reported 13 randomized controlled trials involving 1,649 menopausal women; pooled PSQI findings from six trials did not show a statistically significant difference, while menopausal symptom scores improved significantly. [4] In 2025, a randomized controlled trial of 36 menopausal women found that eight online laughter-yoga sessions over four weeks significantly improved PSQI scores and reduced vasomotor symptoms. [5] These findings suggest that intervention form, duration, population characteristics, and outcome selection may influence observed effects.

Table 1. Key Primary Studies Identified in the Evidence Base

Study	Population/sample	Yoga intervention	Sleep measure	Main sleep finding	Design

Afonso et al., 2012 [2]	Postmenopausal women with diagnosed insomnia; 44 completed	Yoga; 4 months; compared with passive stretching and control	ISI; polysomnography	Insomnia severity improved versus control/passive stretching; objective findings were less conclusive	Randomized clinical trial
Buchanan et al., 2017 [6]	Late-transition/postmenopausal women with hot flashes; n=186	Yoga; 12 weeks; compared with aerobic exercise/usual activity	Actigraphy; PSQI-related analyses	No significant differences in most actigraphic parameters; exploratory sleep-stability benefit in poorer sleepers	Secondary RCT analysis
Susanti et al., 2022 [3]	Peri-, post-, and premenopausal women; n=208	Yoga; 20 weeks; 104 intervention/104 control	PSQI	Sleep quality significantly improved in peri- and postmenopausal women	Randomized controlled trial

Aksoy- Can et al., 2025 [5]	Menopausal women; n=36	Online laughter yoga; 8 sessions over 4 weeks	PSQI	Post-test PSQI significantly lower in yoga group	Randomize d controlled trial
--------------------------------------	-------------------------------	--	------	---	---

Discussion

The mapped evidence suggests that yoga is a promising but not uniformly established intervention for menopausal sleep disturbance. The strongest direct evidence includes trials in which yoga was associated with lower insomnia severity or improved subjective sleep quality. However, null findings from pooled PSQI analyses and objective actigraphy indicate that the apparent benefit may depend on how sleep is defined and measured.

Several intervention characteristics require systematic mapping. Yoga is not a single standardized treatment; studies may differ in postures, breathing practices, relaxation, meditation, laughter yoga, supervision, home practice, and online delivery. Intervention dose also varies from short programs to several months. Consequently, a positive finding cannot automatically be attributed to one universal yoga protocol. The review should therefore describe the intervention components in sufficient detail to allow comparison and future replication.

The distinction between subjective and objective sleep outcomes is especially important. PSQI and ISI measure perceived sleep quality and insomnia symptoms, which are clinically meaningful, while actigraphy and polysomnography assess different dimensions of sleep physiology. Divergent findings across these approaches may indicate that yoga improves perceived sleep or insomnia-related distress without producing large changes in objective sleep architecture. Future trials should consider using both validated patient-reported outcomes and objective measures when feasible.

From a nursing and health-promotion perspective, yoga may be particularly relevant as an adjunctive, self-management-oriented intervention. Nurses and other health professionals can potentially incorporate structured yoga education, referral, or supervised programs into menopause counseling and community health promotion. Nevertheless, yoga should not be presented as a replacement for assessment of persistent

insomnia, sleep apnea, severe depression, medication-related sleep problems, or other underlying conditions. Intervention safety, contraindications, adherence, accessibility, and participant preferences should be explicitly reported.

Research Gaps

Limited standardization of yoga intervention content and dose.

Small sample sizes and short follow-up periods in several primary studies.

Inconsistent use of validated insomnia and sleep measures.

Relatively limited objective sleep assessment.

Insufficient reporting of adherence, fidelity, adverse events, and long-term sustainability.

Need for more studies from low- and middle-income countries and diverse cultural settings.

Need for adequately powered trials that distinguish perimenopausal from postmenopausal populations.

Need for implementation, cost-effectiveness, and community-health research to determine how yoga can be integrated into routine menopause care.

Implications for Health Promotion and Nursing Practice

Sleep health should be included in routine menopause education and assessment. Health professionals can provide evidence-based counseling about sleep hygiene and non-pharmacological options while identifying women who require further clinical assessment. Where trained personnel and appropriate screening are available, structured yoga may be considered as an adjunctive lifestyle intervention for women interested in mind–body approaches. Community-based delivery, group sessions, home practice, and digital formats may increase accessibility, but implementation should be accompanied by clear instruction, appropriate screening, and monitoring of adherence and outcomes.

Limitations of the Present Manuscript

The uploaded source document is a review proposal/protocol rather than a completed systematic search. It specifies the planned databases, eligibility criteria, search strategy, outcomes, and methodological framework but does not contain the final database-by-database search results, duplicate counts, screening records, full-text exclusion log, or completed data-charting table. Therefore, a PRISMA-ScR flow diagram with exact numbers and a definitive number of included studies must not be fabricated. The evidence

statements in this revised manuscript are supported by identifiable published studies and recent evidence syntheses, but the final scoping-review Results section should be completed only after the planned searches and screening have actually been performed.

Conclusion

Yoga is a promising non-pharmacological approach for addressing sleep problems during the menopausal transition, but the evidence remains heterogeneous. Direct trials suggest potential improvements in insomnia severity and subjective sleep quality, whereas pooled and objective sleep findings are less consistent. A rigorously conducted scoping review using JBI methodology and PRISMA-ScR reporting can clarify the range of interventions, populations, settings, outcome measures, safety data, and research gaps. Such an evidence map may support nurses and other health professionals in developing evidence-informed menopause health-promotion programs while identifying priorities for future high-quality trials.

Declarations

Ethical approval: Not applicable for a review of published literature.

Consent: Not applicable.

Financial support: nil

Conflicts of interest: no conflict of interest.

Data availability: The final search strategy, screening record, data-charting form, and extracted dataset were made available as supplementary material where feasible.

References

1. Wang WL, Chen KH, Pan YC, Yang SN, Chan YY. The effect of yoga on sleep quality and insomnia in women with sleep problems: a systematic review and meta-analysis. *BMC Psychiatry*. 2020;20:195. doi:10.1186/s12888-020-02566-4.
2. Afonso RF, Hachul H, Kozasa EH, de Souza Oliveira D, Goto V, Rodrigues D, et al. Yoga decreases insomnia in postmenopausal women: a randomized clinical trial. *Menopause*. 2012;19(2):186-193. doi:10.1097/gme.0b013e318228225f.

3. Susanti HD, Sonko I, Chang PC, Chuang YH, Chung MH. Effects of yoga on menopausal symptoms and sleep quality across menopause statuses: a randomized controlled trial. *Nurs Health Sci.* 2022;24(2):368-379. doi:10.1111/nhs.12931.
4. Chirakalwasan N, Charakorn N. The effects of yoga on sleep quality in menopausal women: a systematic review and meta-analysis. *Sleep.* 2024;47(Suppl 1):A311-A312. doi:10.1093/sleep/zsae067.0728.
5. Aksoy-Can A, Güner-Emül T, Değirmenci F, Buldum A, Aksu A, Vefikuluçay-Yılmaz D. The effect of laughter yoga on vasomotor symptoms and sleep quality in menopausal women: a randomized controlled trial. *Holist Nurs Pract.* 2025;39(4):192-200. doi:10.1097/HNP.0000000000000690.
6. Buchanan DT, Landis CA, Hohensee C, Guthrie KA, Otte JL, Paudel M, et al. Effects of yoga and aerobic exercise on actigraphic sleep parameters in menopausal women with hot flashes. *J Clin Sleep Med.* 2017;13(1):11-18. doi:10.5664/jcsm.6376.
7. Peters MDJ, Marnie C, Tricco AC, Pollock D, Munn Z, Alexander L, et al. Updated methodological guidance for the conduct of scoping reviews. *JB I Evid Synth.* 2020;18(10):2119-2126. doi:10.11124/JBIES-20-00167.
8. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med.* 2018;169(7):467-473. doi:10.7326/M18-0850.

Copyright & License:



© Authors retain the copyright of this article. This work is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.