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REVIEW ARTICLE

Therapeutic Effects of Yoga Nidra on Human Health: An Umbrella Review of Systematic Reviews

Selvaraj Giridharan[1]*, Jawaher Ansari[2], Soni Soumian[3], Nagaraj V. Kumar[4]

[1]Consultant Oncologist, Department of Medical Oncology, Tawam Hospital, Al Ain, UAE.
[2]Consultant Oncologist, Department of Medical Oncology, NMC Hospitals, Dubai, UAE.
[3]Oncoplastic Breast Surgeon, Department of Breast Surgery, Tawam Hospitals, Al Ain, UAE.
[4]Consultant Physician, Department of Emergency Medicine, Tawam Hospital, Al Ain, UAE.

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ABSTRACT

Background: Yoga nidra, a guided practice of self-induced relaxation with preserved awareness, has been evaluated across an expanding set of health conditions, and condition-specific systematic reviews have proliferated. No umbrella review has yet consolidated and critically appraised this secondary literature.

Materials and Methods: We searched five databases from inception to August 2026 for systematic reviews of yoga nidra as a sole or primary intervention. Two reviewers independently screened, extracted, and appraised eligible reviews using A Measurement Tool to Assess Systematic Reviews, version 2, with overlap quantified by the corrected covered area (CCA) globally and also by outcome domain, and certainty summarized where reported. The protocol was registered prospectively with the Open Science Framework.

Results: Ten reviews (2017–2026; six domains; 173 inclusions of 125 unique primary studies) were included. All ten were of critically low methodological confidence, and the single review that applied GRADE rated its evidence very low. Global overlap was slight (CCA 4.3%), but every domain containing more than one review showed very high overlap (18.7–36.4%); redundancy extended to duplicated cohorts and shared authorship, with five of ten reviews originating from two author groups. The reviews applied four incompatible operational definitions of yoga nidra. Reported effects were large against no-treatment and usual-care controls but mostly small or null against attention-matched comparators; the reviews' own "active" and "passive" labels did not separate these comparator types, and no review demonstrated superiority over an established treatment in a pooled or low-risk comparison. Adverse events were essentially unreported.

Conclusion: The apparent replication in this literature is largely an artifact of shared studies, cohorts, and authorship, and its uniformly low quality is masked by a floor effect in the appraisal instrument. Rather than further syntheses, the field requires adequately powered, actively controlled, prospectively registered trials that specify the practice being tested.

1. INTRODUCTION

The global burden of stress-related and mental health conditions has risen markedly over recent decades, whereas the cost, side-effect profiles, and incomplete efficacy of pharmacological management have intensified interest in accessible, low-risk, non-pharmacological approaches.[1] Among mind–body practices, yoga nidra ("yogic sleep") has attracted growing clinical and scientific attention. It is a guided, systematized practice of self-induced relaxation in which the practitioner remains inwardly aware while progressively withdrawing attention from external stimuli.[2] Codified in its contemporary form within the Bihar School of Yoga tradition by Swami Satyananda Saraswati, it typically proceeds through a settling phase, a resolve (*sankalpa*), a rotation of consciousness through the body, breath and sensory awareness, and visualization, before a return to ordinary waking cognition.[2,3] Unlike concentrative meditation or posture-

Corresponding Author:
Selvaraj Giridharan,
Consultant Oncologist, Department of Medical Oncology,
Tawam Hospital, Al Ain, UAE.
Email: selvagiri@icloud.com

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based (*asana*) yoga, yoga nidra sustains a state of relaxed awareness while the body remains still, is delivered in a reclined position, and can be undertaken from audio instruction alone.[4] These features have given rise to secular derivatives and cognate labels, including Integrative Restoration (iRest) and, more colloquially, "non-sleep deep rest" (NSDR).[5] Together with a favorable safety profile and negligible cost, this accessibility underpins its emergence as a candidate non-pharmacological adjunct across a range of clinical and subclinical conditions.

Neurophysiological work has begun to characterize the yoga nidra state itself, with electroencephalographic studies describing features of "local sleep" – slow-wave activity arising in an otherwise wakeful brain – during practice.[6] The mechanisms proposed to underlie its clinical effects converge on a shift in autonomic balance toward parasympathetic predominance, enhanced interoceptive awareness, and modulation of the stress response, with increases in heart rate variability and vagal tone advanced as candidate mediators.[7] Consistent with this, yoga nidra has been evaluated across an expanding set of health domains – including sleep quality and insomnia, hypertension and cardiovascular parameters, stress, anxiety and depression, acute and chronic pain, and menstrual and gynecological complaints, alongside a parallel body of neurophysiological research.

As the primary evidence base has grown, so too has the number of secondary syntheses. A recent systematic review synthesized the randomized evidence for standalone yoga nidra at the primary-study level;[8] that work underscored both the rapid accumulation of trials and their fragmentation across conditions, as well as the tendency of much of the secondary literature to evaluate yoga nidra only as one component of broader, multimodal interventions. Since then, condition-specific systematic reviews have continued to appear, the majority within the last 3 years, and an increasing proportion accompanied by meta-analysis. This proliferation has produced a fragmented landscape: reviews are largely siloed by condition, vary considerably in methodological rigor and in the risk-of-bias tools applied, and draw on a comparatively small and heavily overlapping pool of primary trials. Reported effects are frequently moderate to large, yet are tempered by low methodological quality and substantial heterogeneity, raising the possibility that pooled estimates are inflated. Where umbrella-level synthesis of yoga exists, it addresses yoga as a broad, posture-inclusive category – for example, across chronic diseases and cancer care – rather than yoga nidra as a discrete intervention.[9,10] To our knowledge, no umbrella review has yet consolidated and critically appraised the systematic review evidence for yoga nidra specifically.

This umbrella review therefore aims to (i) map the systematic review evidence on yoga nidra across all reported health outcomes; (ii) appraise the methodological quality of the included reviews using A Measurement Tool to Assess Systematic Reviews, version 2 (AMSTAR-2); (iii) quantify the degree of primary-study overlap between reviews; and (iv) summarize, by outcome domain, the direction of effect and the certainty of the underlying evidence.

2. MATERIALS AND METHODS

2.1. Design and Reporting

This study was conducted as an umbrella review (overview of systematic reviews) following the methodological guidance of the Joanna Briggs Institute.[11] Reporting adheres to the Preferred Reporting Items for Overviews of Reviews Statement,[12] and study selection is presented using a Preferred Reporting Items for Systematic Reviews and Meta-Analysis 2020 flow diagram adapted for reviews as the unit of analysis.[13] The protocol was registered prospectively with the Open Science Framework (10.17605/OSF.IO/2HNR9). As a secondary synthesis of published literature, the study did not require ethical approval.

2.2. Eligibility Criteria

2.2.1. Population

Human participants of any age and health status, with no restriction by condition.

2.2.2. Intervention

Yoga nidra was delivered as the sole or primary intervention, including recognized derivatives and synonyms (yoga nidra, yogic sleep, psychic sleep, iRest, and NSDR); reviews in which yoga nidra was evaluated only as one component of a multimodal package or subsumed within general yoga without separable data were excluded.

2.2.3. Comparator

Any comparator or none.

2.2.4. Outcomes

Any health-related outcome, including physiological, psychological, and neurophysiological measures.

2.2.5. Study design

Systematic reviews, with or without meta-analysis, employing a reproducible search strategy and a structured risk-of-bias or quality appraisal of their included primary studies. Narrative, scoping and integrative reviews, editorials, commentaries, protocols, primary studies, and conference abstracts were excluded.

2.3. Information Sources and Search

PubMed, the Cochrane Library, Scopus, Web of Science, and Epistemonikos were searched from inception to August 2026, combining intervention terms with a database-appropriate systematic-review filter. Reference lists of eligible reviews and relevant overviews were hand-searched, and forward citation searching was performed on included reviews. Only fully published, English-language reviews were included. Full search strategies are provided in Supplementary File 1.

2.4. Selection, Extraction, and Appraisal

Records were de-duplicated and imported into a reference management system.[14] Two reviewers independently screened titles and abstracts, and then full texts, with disagreements resolved by discussion or third-reviewer adjudication; reasons for full-text exclusion were recorded. Data were extracted independently by two reviewers using a piloted, standardized form. Methodological quality was appraised independently by two reviewers using AMSTAR-2, with overall confidence rated high, moderate, low, or critically low on the basis of weaknesses in the tool's seven critical domains, applied unmodified.[15] Because AMSTAR-2 returned a uniform verdict, two supplementary descriptors were recorded: the ratio of critical flaws to applicable critical domains and a five-item question-specific companion checklist covering construct verification, co-intervention separability, comparator-type separation, cohort-duplication detection, and analytic architecture. The companion checklist was developed *post hoc*, is descriptive only, and was never used to alter an AMSTAR-2 rating. Full scoring conventions and item definitions are provided in Supplementary File 2; item-level justifications for every review are provided in Supplementary File 3.

2.5. Overlap, Certainty, and Synthesis

A citation matrix cross-tabulating every primary study against the reviews in which it appeared was constructed, and the corrected covered area (CCA) was calculated overall and by outcome domain using established thresholds.[16] Duplicate publications of a single participant cohort were additionally identified so that overlap could be reported at cohort as well as publication level. Certainty of evidence was summarized using GRADE where reviews reported or permitted its derivation; where they did not, this was noted rather than imputed.[17] Given the anticipated overlap and the heterogeneity in populations, protocols and outcome measures, quantitative re-pooling across reviews was not undertaken; findings were synthesized in structured tabular and narrative form by outcome domain.

3. RESULTS

We identified 95 records from PubMed (n = 28), Scopus (n = 23), Cochrane (n = 0), Web of Science (n = 17), and Epistemonikos (n = 27). After removal of 46 duplicates, 49 records were screened; 14 were excluded based on title and abstract, and 35 reports were assessed in full text, of which 25 were excluded. No additional eligible reviews were identified through reference lists or citation searching. Ten systematic reviews were included in this umbrella review.[18-27] The selection process is shown in Figure 1.

3.1. Characteristics of the Included Reviews

The ten included reviews were published between 2017 and 2026, nine of them in 2024 or later, and are described in Table 1. Five performed a quantitative synthesis;[20,22,25-27] five synthesized narratively, in four cases because heterogeneity was judged to preclude pooling and in one because only two eligible trials were identified.[18,19,21,23,24] Six outcome domains are represented. Together, the reviews draw on 173 inclusions of 125 unique primary studies. The included reviews differ in scale by more than an order of magnitude: The largest contributes 73 primary studies and 5201 participants (42% of all inclusions and more than the next three reviews combined),[26] while the smallest contributes only two trials and 250 participants.[24]

The evidence base is also geographically concentrated, India predominating where reported (78% of primary studies in the cardiovascular review, 88% in the sleep review, and 64% in the mental-health review),[20,22,26] and predominantly non-randomized: randomized trials constitute 30% of the largest pool and 36% of the cardiovascular pool.[20,26] Only three reviews restricted inclusion to randomized trials.[19,21,24]

3.2. Overlap of Primary Studies

The global CCA was 4.27% (“slight”), suggesting the ten reviews are largely independent. Stratified by outcome domain, the picture reverses: All four domains containing more than one review fall in the highest overlap band, at 18.7–36.4% on a publication-level count [Table 2]. This publication-level figure is itself a lower bound, because the CCA counts each publication as a distinct study and is blind to the repeated publication of a single participant cohort. Where the cohort structure could be audited, the gap was substantial: In the menstrual-disorders domain, reviews by Sony *et al*. and Kim draw on just three distinct participant cohorts between them (approximately 150, 100, and 50 participants),[19,24] of which two are common to both reviews, so that recomputing the CCA on cohorts rather than publications raises it from 28.6% to 66.7%.

Redundancy takes several forms. Whole reviews are subsumed: both trials in one menstrual-disorder review appear in the other,[19,24] and 14 of 16 studies in one mental-health review appear in the larger.[18,26] A single hub study is included in five reviews,[20-23,26,28] linking the cardiovascular, sleep, electroencephalography, and mental-health syntheses; it is also among the weakest studies in the pool (89% of participants fell asleep during practice, and no significant polysomnographic effect was observed). The review by Sony *et al*. illustrates this at the level of a single review: Its seven inclusions derive from only three participant cohorts, the largest of which is re-reported 5 times with differing outcomes, so that its reported total of 900 participants corresponds to approximately 300 distinct individuals. The same program supplies both of the trials in the review by Kim, making the menstrual-disorder evidence base substantially one body of participants reported many times.[24] Cohort repetition also crosses domains: A single 65-participant hypertension trial, published separately on blood pressure and on psychological and autonomic outcomes, is entered twice in the cardiovascular review and once each in the sleep, hypertension, and mental-health reviews, so that one body of participants appears 5 times across four reviews and three domains.[20,21,25,26] A full cohort-level audit was not undertaken across all ten reviews; the publication-level CCAs reported in Table 2 for the sleep, cardiovascular, and mental-health domains are therefore conservative, and the true degree of participant-level overlap in those domains is likely to be higher.

3.3. Methodological Quality

All ten reviews were rated critically low confidence [Table 3]. None reached high, moderate, or low confidence, and none accumulated fewer than two critical flaws. Because the rating is a floor reached at two flaws, we report the ratio of critical flaws to applicable critical domains alongside it: One review fails four of five applicable critical domains, and the remaining nine fail two, of either five or seven depending on whether meta-analytic items are applied. Item-level tallies are reported by review and, where they differ materially, by author group.

3.4. Reporting of the Evidence Base

No review reported the funding sources of its included primary studies, and none recorded the field as unreported – the only failure that is complete on both denominators. One review extracted protocol registration, informed consent, ethical clearance, and conflict-of-interest data for each primary study and omitted funding.[25] Eight of ten reviews supplied no list of studies read in full text and excluded, giving aggregate counts only; the two exceptions, from two different groups, name and justify every full-text exclusion.[22,25] Every review’s search was rated partial yes – none reached yes, and none fell to no. Nine of ten were restricted by language, and only one justified the restriction;[26] no review consulted content experts. Database counts ranged from two to eight but track strategy quality poorly: one review searched four databases with a seventeen-term Boolean synonym set,[25] while another searched five using the single unexpanded phrase “yoga nidra.”[24]

3.5. Prespecification

Seven reviews reported a registered protocol. Following verification against the public registry records, registration was demonstrably prospective in three,[23,25,26] could not be verified as prospective in three,[20,22,27] and was retrospective in one.[18] Three reviews reported no protocol;[19,21,24] all three are narrative syntheses, and every review that

performed a meta-analysis was registered. Duplicate study selection was reported by seven reviews and duplicate or independently verified extraction by five.

3.6. Risk of Bias in the Primary Studies

Six instruments were used across the ten reviews, in seven different combinations [Table 1]. Two reviews were judged not to have used a satisfactory technique,[18,23] because both relied on an instrument that returns a summative percentage rather than domain-level judgments of bias. Three were judged partially satisfactory:[20,26,27] each paired an appropriate randomized-trial tool with a 28-point summative scale, which it applied to its non-randomized studies (17 of 28, 50 of 73, and 4 of 12, respectively). One of these also left a randomized crossover trial unappraised by either instrument.[20] Of the reviews that admitted both designs, only two paired a domain-level tool with each.[22,25] Where risk of bias was assessed, the verdicts were consistently unfavorable. In the mental-health review, 17 of 22 randomized trials were rated at high risk and 41 of 50 non-randomized studies as poor;[26] in the cardiovascular review, the corresponding figures were 8 of 10 and 11 of 17.[20]

3.7. Quantitative Synthesis

All five reviews performing a meta-analysis were judged not to have used appropriate statistical methods in two distinct patterns. In four reviews the failure is architectural: Randomized and non-randomized estimates were combined in the headline analysis without justification, with design stratification relegated to a subgroup or absent altogether.[20,25-27] Three of these reviews additionally pooled single-arm pre–post change as an effect estimate and carried the result into their abstracts. Multi-arm trials were mishandled in both directions without any stated rule. One review entered both intervention arms of a single trial against one shared control, inflating precision,[26,29] while another silently discarded one of two control arms of a three-arm trial.[25,30] Subgroup analyses and meta-regressions were fitted on as few as two and five studies at I^2 values up to 97%; one of them reported z = 1.92 against $P = 0.551$, although a z of 1.92 corresponds to $P \approx 0.055$.[27] In the fifth review, the failure is arithmetical rather than architectural.[22] Designs were correctly segregated, and the estimator stack was specified, but each of three meta-analyses pooled just two studies, two of them observational and at serious risk of confounding, with a small-sample correction returning an interval of −6.40–4.40 around a point estimate of −1.00.

Three reviews ran trim-and-fill and were credited, although their funnels rested on three to seventeen studies.[20,26,27] One declined to test, stating that funnel plots and Egger's regression are unreliable below ten studies, and discussed small-study effects narratively.[22] A fifth did not test and mentioned publication bias only in passing in its limitations.[25] The latter two score identically, and both score below the three that performed underpowered tests. We therefore report handling as a three-level descriptor–tested, declined with justification, or mentioned without testing–alongside the item score.

3.8. Question-Specific Appraisal

Companion checklist results are given in Table 4. Detection of cohort duplication failed in seven of ten reviews and could not be tested in two whose inclusions contained no repeated cohort.[21,25] Only one disclosed a duplication issue among its own inclusions.[22] The remaining reviews with an identifiable repeated cohort among their inclusions, including the review whose entire evidence base derives from one program,[24] remained silent. Verification that included studies delivered yoga nidra as defined was achieved by one review[24] and failed by five.[18,20,23,25,26] Separability of yoga nidra from bundled asana, pranayama, or chanting was achieved by three reviews, most completely by the review that segregated its combined-intervention studies into a separate table.[23] Separate modeling of active and passive comparators failed outright in two reviews;[18,25] three others separated comparator strata but classified usual-care and add-on-to-medication controls as active comparators and classified the same trial's control condition differently from one review to the next.[20,26,27] The review adding no unique studies to the pool achieves the strongest profile on this checklist,[24] the reverse of what the overlap analysis alone would suggest, while the weakest profile belongs to a narrative review that fails every item.[18]

3.9. Certainty of the Evidence

One of the ten reviews formally assessed certainty and rated it very low across both primary outcomes, concluding that its findings should be treated as preliminary and hypothesis-generating.[22] The remaining nine reported no certainty assessment. Three reviews additionally applied non-standard effect-size interpretation bands (small 0.16, medium 0.38, large 0.76) in place of conventional thresholds,[20,26,27] so estimates described as "large" in those reviews are not comparable with estimates so described elsewhere in this literature.

3.10. Reported Effects by Outcome Domain

Effect estimates are summarized in Table 5 and are reported as the source reviews report them. Given that all ten reviews are of critically low confidence, that the only formal certainty assessment returned very low, and that no review analyzed a low-risk stratum, these figures describe what the secondary literature claims rather than estimating effect.

Three features are not visible in the table. First, objective and subjective findings diverge within the sleep domain: the one sleep-laboratory trial found no significant polysomnographic effect on sleep efficiency or onset latency,[28] while trials relying on questionnaires and diaries reported improvement.[31] Second, the significant pain estimate is fragile: Leave-one-out analysis moves it from $P = 0.01$ to $P = 0.065$ on removal of a single study, a result appearing in that review's tables but not in its abstract or conclusion.[27] Third, the two cardiovascular reviews differ by an order of magnitude while sharing six primary studies, the difference being attributable to analytic choice rather than evidence: One stratified its analyses by comparator,[20] the other pooled three randomized and five non-randomized studies with active and passive comparators in a single model at $I^2 = 93\%$ and imputed the standard deviation of change for three studies – carrying 40% of the weight – using a correlation coefficient borrowed from a fourth study and never reported.[25]

Across domains, the most consistent quantitative signal is not the magnitude of effect but its dependence on the comparator, and the reviews' own comparator labels obscure it. In the three reviews that stratified by comparator, the "active" stratum included usual care and yoga nidra added to medication: Three of the six studies in the cardiovascular "active" pool,[20] four of six in the pain "active" pool[27] and the largest effects in the mental-health "active" pools[26] came from such controls. Conversely, the cardiovascular "passive" pool was half composed of single-session studies, which is why its estimate was smaller than the "active" one.[20] Against attention-matched comparators that were not yoga practices – music, relaxation

recordings, sleep education, nutritional counseling, and housing services – individual effects were mostly small or null [Table 5]; the exceptions were single small studies at high risk of bias against other active practices. The only head-to-head claim against an established treatment, superiority over cognitive behavioral therapy for insomnia, rests on a single 30-participant trial at high risk of bias,[21,31] and no review demonstrated superiority over an established treatment in a pooled or low-risk comparison.

3.11. Definition of the Intervention

The ten reviews do not agree on what yoga nidra is, and the disagreement is not marginal [Table 6]. Four incompatible positions are represented, differing along at least four axes: whether iRest and NSDR qualify; whether Tibetan and other contemporary lineages qualify; whether biofeedback-assisted relaxation qualifies; and where the boundary with generic meditation lies. The primary literature offers little help: between 21% and 83% of included studies named no tradition at all.

3.12. Adverse Events

Adverse-event reporting is almost entirely absent. One review reported the question systematically, recording that neither of its two included trials observed adverse effects,[24] and one identified the complete absence of adverse-event reporting across its included trials as a substantive finding.[21] The remaining eight neither extracted nor reported adverse events, including a review of protocols up to 2 h in duration.[23] No conclusion about the safety of yoga nidra can be drawn from the existing secondary literature – a point that sits uneasily beside the description of the intervention as safe in the conclusions of five of the ten reviews.

4. DISCUSSION

To the best of our knowledge, this is the first umbrella review to compile and critically appraise the systematic-review evidence on yoga nidra across health conditions. Drawing on ten systematic reviews that together included 173 inclusions of 125 unique primary studies across six outcome domains, it provides the most comprehensive synthesis currently available of the secondary literature on this intervention. All ten reviews were of critically low methodological confidence; the single review that applied GRADE rated its evidence very low. Three findings stand out: redundancy is concentrated at the domain level and largely invisible to the global CCA metric; AMSTAR-2 cannot discriminate within a uniformly weak literature; and the reviews do not agree on what intervention they are synthesizing.

Redundancy operates at multiple levels. A global CCA of 4.3% would conventionally be reported as slight overlap. Stratified by domain, the same data yield 18.7–36.4%, with every multi-review domain falling in the highest band. Reporting only the global value would therefore have inverted the conclusion; umbrella reviews that span several clinical domains should present CCA stratified by default.

Beneath the publication-level metric sit further layers that CCA cannot capture. These include whole reviews that add almost no unique studies and repeated participant cohorts. In several domains, the secondary literature draws repeatedly on a limited pool of primary studies and, in some cases, the same underlying participant groups reported across multiple publications. The menstrual-disorders domain illustrates this most clearly, where recomputing overlap on cohorts rather than publications raises the CCA from 28.6% to 66.7%; and a single hypertension trial reappears 5 times across four reviews and three domains. The apparent replication across reviews is therefore largely structural–an artifact of shared studies and cohorts rather than independent corroboration.

A rating of critically low is reached at two critical flaws, and every review had at least two. Beyond that point, AMSTAR-2 stops discriminating. The most careful review receives the same rating as the least careful; the publication-bias item inverts (underpowered tests score better than a justified decision not to test); and even reviews that have publicly differed in their interpretations remain indistinguishable on the instrument. Floor effects are a predictable consequence of applying a discriminating tool to uniformly weak literature. We therefore report the flaw-to-domain ratio and a *post hoc* companion checklist alongside the AMSTAR-2 rating–an approach that may be useful wherever an umbrella review returns a uniform verdict.

The reviews are not synthesizing one intervention. Four incompatible operational definitions of yoga nidra are in use, differing on the status of iRest/NSDR, non-Satyananda lineages, biofeedback-assisted protocols, and the boundary with generic meditation. This is not ordinary indirectness; it is the absence of a common construct and places a ceiling on what any quantitative synthesis in this field can mean. Adoption of the CLARIFY reporting standard[32] and greater fidelity to core practice components would do more for the literature than further trials alone.

What the evidence appears to show is that effects are large against no-treatment and usual-care controls and mostly small or null against attention-matched comparators, a distinction the reviews' own "active" and "passive" labels fail to draw. No review demonstrates superiority of yoga nidra over an established treatment in a pooled or low-risk comparison. Safety cannot be commented on at all, yet half the reviews describe the intervention as safe in their conclusions.

4.1. Implications for Future Research

Further systematic reviews of yoga nidra are not needed; four domains are already saturated with overlapping syntheses of the same trials. What is required are adequately powered randomized trials with active comparators, conducted outside the limited number of centers that have generated most of the existing evidence, reporting lineage and session structure to a common standard, recording adverse events, and prospectively registered. Reviewers should report overlap by domain, distinguish cohorts from publications, and decline to pool when the available studies will not support it.

4.2. Strengths and Limitations

This umbrella review was prospectively registered; screening, extraction, and appraisal were performed in duplicate; and overlap was quantified at global, domain, and cohort level. Limitations include the *post hoc* nature of the companion checklist; restriction of this umbrella review to fully published English-language reviews, in addition to inheritance of the language and search restrictions of the included reviews; a cohort-level audit confined to one domain, so that cohort-level overlap elsewhere is reported only as a lower bound; and residual uncertainty about a few possible additional cohort duplications that could not be resolved from the published record.

5. CONCLUSION

The secondary literature on yoga nidra gives an impression of convergent replication that its structure does not support. Ten systematic reviews, all of critically low confidence, draw repeatedly on the same primary studies – heavily overlapping within every clinical domain, in

several cases on the same participant cohorts, and in five of ten cases from two author groups – while disagreeing on what yoga nidra is. Where effects are reported, they are large against no-treatment and usual-care controls and mostly small or null against attention-matched comparators; no review demonstrates superiority over an established treatment in a pooled or low-risk comparison, adverse events are essentially unreported, and the only formal certainty assessment in the field returned very low. The appropriate response is not another synthesis but well-conducted, actively controlled, prospectively registered trials that specify the practice that is tested.

6. ACKNOWLEDGMENTS

None.

7. AUTHOR CONTRIBUTIONS

All the authors have read and approved the final version of the manuscript.

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9. ETHICAL STATEMENT

Ethical approval was not required for this study as it was a review article with data obtained through a literature search.

10. CONFLICT OF INTERESTS

The authors declare no conflicts of interest regarding the publication of this paper.

11. DATA AVAILABILITY STATEMENT

All data analyzed in this review were extracted from published systematic reviews and are presented in the tables and supplementary files. The primary-study citation matrix used to calculate the CCA is available from the corresponding author on reasonable request.

12. DISCLAIMER/VIEW AND OPINIONS

The opinions expressed in this article are solely those of the authors and do not reflect the views of the International Research Journal of Ayurveda and Yoga or its editorial board.

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Figure 1: Summarized search strategy (Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram)

Table 1: Characteristics and methodological profile of the ten included systematic reviews

Review	Outcome domain	Year	Meta-analysis	Databases (*n*)	Studies (RCTs)	Risk-of-bias tool (s)	Participants (n)	Registration	Certainty rating	AMSTAR-2
Malviya *et al*.[18]	Mental health	2025	No	2	16 (7)	MMAT	1,701	Retrospective	Not assessed	Critically low (4/5)
Sony *et al*.[19]	Menstrual disorders	2026	No	5	7 (7)	Cochrane RoB 2	900[a]	None	Not assessed	Critically low (2/5)
Ghai *et al*.[20]	Cardiovascular	2025	Yes	8	28 (10)	Cochrane RoB 2+Downs and Black[b]	1,995	Unverified[c]	Not assessed	Critically low (2/7)
Dutta *et al*.[21]	Sleep	2026	No	4	6 (6)	Cochrane RoB (original)	244	None	Not assessed	Critically low (2/5)
Singh *et al*.[22]	Sleep and insomnia	2026	Yes	4	9 (5)	Cochrane RoB 2+ROBINS-I	480	Unverified[c]	GRADE: very low	Critically low (2/7)
Kachera *et al*.[23]	Electroencephalography	2026	No	4	12 (4)	MMAT+COBIDAS-MEEG	326	Prospective	Not assessed	Critically low (2/5)
Kim[24]	Menstrual disorders	2017	No	5	2 (2)	Cochrane RoB (original)	250	None	Not assessed	Critically low (2/5)
Ahuja *et al*.[25]	Hypertension	2024	Yes	4	8 (3)	Cochrane RoB 2+ROBINS-I	482	Prospective	Not assessed	Critically low (2/7)
Ghai *et al*.[26]	Stress, anxiety, depression	2026	Yes	8	73 (22)	Cochrane RoB 2+Downs and Black+MMAT	5,201	Prospective	Not assessed	Critically low (2/7)
Ghai *et al*.[27]	Pain	2025	Yes	8	12 (8)	Cochrane RoB 2+Downs and Black	1,176	Unverified[c]	Not assessed	Critically low (2/7)

n: Number, RCTs: Randomized controlled trials, MMAT: Mixed methods appraisal tool, RoB 2: Cochrane risk-of-bias tool for randomized trials, version 2, ROBINS-I: Risk of bias in non-randomized studies of interventions, downs and black, the downs and black methodological quality checklist, COBIDAS-MEEG: Committee on best practices in data analysis and sharing – magnetoencephalography and electroencephalography reporting checklist, GRADE: Grading of recommendations, assessment, development and evaluations, AMSTAR-2: A measurement tool to assess systematic reviews, version 2. Studies (RCTs): Number of included primary studies, with the number that were randomized controlled trials in parentheses. [a]Reported total: the seven inclusions derive from three participant cohorts totaling approximately 300 individuals. [b]One randomized crossover trial was appraised with neither instrument. [c]Registration cited, but registration before the search could not be confirmed from the report or the public record (Supplementary File 2, CONV-1)

Table 2: Overlap of primary studies between reviews, measured by the corrected covered area, overall and within each outcome domain

Outcome domain (contributing reviews)	Inclusions (*n*)	Unique studies (r)	Reviews (c)	Publication-level CCA (%)	Overlap band	Cohort-level CCA
Sleep and insomnia[21,22]	15	11	2	36.4	Very high	Not audited
Menstrual disorders[19,24]	9	7	2	28.6	Very high	66.7%[a]
Cardiovascular and hypertension[20,25]	36	30	2	20.0	Very high	Not audited
Mental health[18,26]	89	75	2	18.7	Very high	Not audited
Pain[27] (single review)	12	12	1	Not applicable	Not applicable	Not applicable
Electroencephalography[23] (single review)	12	12	1	Not applicable	Not applicable	Not applicable
All ten reviews (global)	173	125	10	4.27	Slight	—

The corrected covered area (CCA) is calculated as (N−r)/(rc−r), where N is the number of inclusions, r the number of unique primary studies, and c the number of reviews, and is interpreted as slight (0–5%), moderate (6–10%), high (11–15%) or very high (>15%). Numbers in square brackets are the reference numbers of the contributing reviews in the main text. Collapsing the publications of the single Lucknow menstrual-disorders research program to their distinct participant cohorts changes the global value only marginally (from 4.27% to 4.11%), because the metric is computed on publications and is insensitive to duplication within a participant cohort. Publication-level CCA counts each publication as a distinct study; cohort-level CCA counts each distinct participant cohort once, so that multiple publications of one cohort are treated as a single study. [a]For the menstrual-disorders domain, the cohort structure was audited: Reviews[19] and[24] draw on 3 distinct cohorts between them (approximately 150, 100, and 50 participants), of which the 150- and 100-participant cohorts are common to both reviews; recomputing on cohorts (*n*=5, r=3, c=2) raises the corrected covered area from 28.6% to 66.7%. "Not audited" indicates that the cohort structure of the domain's inclusions was not individually resolved and the cohort-level value could not be computed; the publication-level value is therefore a lower bound on true overlap. The global cohort-level value is not reported because the audit was not performed across all ten reviews

Table 3: Item-level AMSTAR-2 appraisal of the ten included reviews

#	AMSTAR-2 item (abbreviated)	Crit.	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]
1	Research question and inclusion criteria include PICO components		Y	Y	Y	Y	Y	N	Y	Y	Y	Y
2	A priori protocol, with deviations justified	*	N	N	PY	N	PY	Y	N	Y	Y	PY
3	Explanation of study designs selected for inclusion		N	N	N	N	Y	N	Y	N	Y	N
4	Comprehensive literature search strategy	*	PY	PY	PY	PY	PY	PY	PY	PY	PY	PY
5	Study selection performed in duplicate		N	Y	Y	N	Y	Y	N	Y	Y	Y
6	Data extraction performed in duplicate		N	Y	N	Y	Y	Y	N	Y	N	N
7	List of excluded studies with justification	*	N	N	N	N	Y	N	N	Y	N	N
8	Included studies described in adequate detail		Y	PY	Y	PY	Y	Y	Y	Y	Y	Y
9	Satisfactory technique for assessing risk of bias	*	N	Y	PY	Y	Y	N	Y	Y	PY	PY
10	Funding sources of included primary studies reported		N	N	N	N	N	N	N	N	N	N
11	Appropriate statistical methods for meta-analysis	*	NA	NA	N	NA	N	NA	NA	N	N	N
12	Impact of risk of bias on the pooled estimate assessed		NA	NA	N	NA	N	NA	NA	N	N	N
13	Risk of bias accounted for in interpreting results	*	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
14	Heterogeneity investigated and explained		N	Y	Y	Y	Y	Y	Y	N	Y	Y
15	Publication bias investigated and discussed	*	NA	NA	Y	NA	N	NA	NA	N	Y	Y
16	Conflicts of interest and funding declared		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Critical flaws/applicable critical domains		4/5	2/5	2/7	2/5	2/7	2/5	2/5	2/7	2/7	2/7
	Overall confidence		C. low	C. low	C. low	C. low	C. low	C. low	C. low	C. low	C. low	C. low

AMSTAR-2: A measurement tool to assess systematic reviews, version 2, PICO: Population, intervention, comparator, outcome, Crit.: Critical domain, #: Item number. Y: Yes, PY: Partial yes, N: No, NA: Not applicable (no meta-analysis was performed). An asterisk (*) denotes a critical domain. A partial yes is not counted as a critical flaw. For reviews without a meta-analysis, items 11, 12 and 15 are not applicable, leaving five applicable critical domains (items 2, 4, 7, 9 and 13), C. low, critically low. Numbers in square brackets are the reference numbers of the reviews in the main text. Publication-bias handling, recorded additionally as a descriptor: formal test performed[20,26,27]; test declined with an explicit statistical justification[22]; mentioned without testing[25]

Table 4: Question-specific companion checklist across the ten included reviews

Companion checklist item	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]
C1. Verification of the yoga nidra construct	N	PY	N	PY	PY	N	Y	N	N	PY
C2. Separability from co-interventions	N	PY	N	PY	Y	Y	Y	PY	PY	N
C3. Separate modeling of comparator types	N	Y	PY	Y	PY	Y	N/A	N	PY	PY
C4. Detection of cohort duplication	N	N	N	N/A	Y	N	N	N/A	N	N
C5. Controlled analytic architecture	N	Y	PY	Y	PY	PY	Y	Y	PY	PY

Y: Achieved, PY: Partially achieved, N: Not achieved, N/A: Not testable (for C3, both included trials of review[24] share a single comparator type; for C4, the inclusions of reviews[21] and[25] contain no repeated cohort). Numbers in square brackets are the reference numbers of the reviews in the main text. The companion checklist was developed after data extraction, is descriptive only, and was not used to modify any AMSTAR-2 rating; item definitions and the basis for each verdict are provided in Supplementary Files 2 and 3. AMSTAR-2: A measurement tool to assess systematic reviews, version 2

Table 5: Reported effects of yoga nidra by outcome domain, as presented by the source reviews

Domain	Outcome	Comparator	k	*n*	Effect estimate (95% CI)	I^2 (%)	Comment
Mental health[26]	Stress	Any comparator[a]	8	5,201 (all outcomes)	g−0.80 (−1.27–−0.33)	48	Driven by a usual-care trial (g−3.48); attention-matched comparators−0.09–−0.38; twenty-one stress instruments; authors state effects "likely reflect inflated estimates"
	Stress	No intervention	10		g−1.70 (−2.32–−1.08)	71.3	Between-group comparison against a no-intervention control group
	Stress	None (within-group)	33		g−1.05 (−1.32–−0.78)	72.6	Uncontrolled pre–post pooling; the abstract cites within-group analyses as corroboration
	Anxiety	Any comparator[a]	17		g−1.35 (−1.89–−0.82)	37.4	Largest estimates from usual-care trials (g−5.25 and−2.95); attention-matched comparators−0.13–−0.67
	Anxiety	No intervention	10		g−1.43 (−2.05–−0.81)	77.7	
	Depression	Any comparator[a]	11		g−0.69 (−1.19–−0.19)	53.7	Usual-care trials g−3.34 and−1.50; attention-matched comparators−0.30–+1.88
	Depression	No intervention	6		g−0.92 (−1.48–−0.37)	77.3	
Mental health[18]	Stress	Mixed	16	1,701	Not pooled	—	Significant stress reduction in 9 of 10 studies; 14 of 16 studies shared with[26]
Sleep and insomnia[22]	Sleep quality (PSQI)	Active or minimal (RCTs)	2	181	SMD−1.04 (−2.39–0.31); *P*=0.065	0	81% of the weight from an unpublished registry trial co-authored by the review team
	Sleep quality (PSQI)	None (observational)	2	45	SMD−1.82 (−3.61–−0.02); *P*=0.047	79.8	Single-arm pre–post pooling; both studies at serious risk of confounding
	Insomnia severity (ISI)	Active or passive (RCTs)	2	99	SMD−1.00 (−6.40–4.40); *P*=0.256	71.4	Interval uninformative at two studies
Sleep[21]	Sleep diary, PSG/ actigraphy, PSQI, ISI	Mixed (CBT-I, PMR, music, usual care, quiet rest)	6	244	Not pooled	—	Mostly favorable; the sleep-laboratory trial found no difference in EEG-derived sleep-onset latency; superiority over PMR, music and CBT-I each claimed from a single small trial at high risk of bias; no adverse-event data in any trial
Cardiovascular[20]	Systolic blood pressure	Any comparator[a]	6	1,995 (all outcomes)	g−1.65 (−2.49–−0.81)	0	Three of six controls were drug-treated usual care (g−2.08, −2.07, −0.72); music comparator−0.20; hypertensive subgroup−1.95
	Systolic blood pressure	No intervention	4		g−0.77 (−1.52–−0.02)	7.3	Two of four studies were single sessions (g−0.08 and−0.15); single-session−0.11 vs. multisession−1.42; diastolic and heart-rate estimates not significant

(Contd...)

Table 5: *(Continued)*

Domain	Outcome	Comparator	k	*n*	Effect estimate (95% CI)	I^2 (%)	Comment
	Diastolic blood pressure	Any comparator[a]	6		g−1.01 (−1.58–−0.44)	0.5	
Hypertension[25]	Systolic blood pressure	Active and passive pooled	8	482	MD 12.03 mmHg reduction (7.12–16.93)	93	Randomized and non-randomized studies pooled without stratification; standard deviation of change imputed for 3 studies carrying 40% of the weight
	Diastolic blood pressure	Active and passive pooled	8	482	MD 6.32 mmHg reduction (3.53–9.12)	90	No subgroup, sensitivity, or publication-bias analysis; source abstract misstates the design counts and source conclusion misstates the sample size
Menstrual disorders[19]	Psychological, hormonal, physiological	Mixed	7	900	Not pooled; *P*-values only	—	No effect sizes recoverable in this domain
Menstrual disorders[24]	Anxiety; depression	Medication alone	2	250	Not pooled; $P<0.01$ and $P<0.02$	—	Both trials from one Lucknow program; homogeneity reported as a strength
Pain[27]	Pain intensity	Passive	5	1,176 (all outcomes)	g−2.05 (−3.64–−0.47); $P=0.01$	41.6	Moves to $P=0.065$ on leave-one-out; 2 of 5 contributing studies delivered yoga nidra within multi-component packages
	Pain intensity	Any comparator[a]	6		g−0.31 (−1.28–0.66); $P=0.53$	24.8	Four of six controls were usual care; the one yoga comparator (Surya Namaskar) was favored (g+2.04); excluding it, g−0.75 ($P=0.012$)
Electroencephalography[23]	Theta power	Baseline or active	12	326	+9% and+11%, both non-significant	—	No change in novices; narrative synthesis only
	Alpha power	Baseline or active	—		Inconsistent in direction; g ≈ 0.27 in[28]	—	Beta and gamma findings derive entirely from one experienced practitioner

k: Number of primary studies contributing to the estimate, *n*: Number of participants, CI: Confidence interval, SMD: Standardized mean difference, WMD: Weighted mean difference, g: Hedges' g, mmHg: Millimeters of mercury, I^2: The I-squared heterogeneity statistic, PSQI: Pittsburgh sleep quality index, ISI: Insomnia severity index, TST: Total sleep time, SOL: Sleep-onset latency, SE: Sleep efficiency, TIB: Time in bed, WASO: Wake after sleep onset, RCTs: Randomized controlled trials, a dash (—) indicates not reported or not applicable. Estimates from review[22] are those shown on the source forest plots; the published text of that review reports the heterogeneity Q-test *P*-value in place of the test for overall effect in all three analyses. Reviews[20,26] and[27] interpret effect sizes using non-standard bands (small 0.16, medium 0.38, large 0.76) rather than conventional thresholds. All ten reviews are of critically low confidence; these figures describe what the source reviews report and should not be read as pooled estimates of effect. [a]The stratum each review labeled "active", which includes usual-care and add-on-to-medication controls. The effect metric for reviews[20,26] and[27] is Hedges' g. For review,[25] reductions are reported as positive values, as in the source

Table 6: Operational definitions of yoga nidra across the ten included reviews

Position	Reviews	What is admitted	What is excluded
Broad contemporary	[18,20,26,27]	Integrative Restoration (iRest) and non-sleep deep rest; commercial recordings; Sri Sri Ravi Shankar protocols (7 of 16, 11 of 73, 1 of 28 and 2 of 12 studies, respectively)	No explicit exclusion by lineage
Strict Bihar School	[21,24]	Satyananda-lineage protocols only, with the practice sequence specified	Integrative Restoration, non-sleep deep rest and all non-Satyananda lineages
Intermediate	[22]	Bihar School plus Tibetan and other named contemporary lineages	Integrative Restoration and non-sleep deep rest
Proportion of session time	[25]	Any supine relaxation involving breath awareness, rotational awareness of consciousness or visualization constituting at least 50% of session time, including biofeedback-assisted relaxation	Interventions in which such practice occupies less than 50% of session time
Meditation-adjacent	[23]	Generic mindfulness and meditation-induced changes of consciousness admitted alongside named yoga nidra protocols	Qualitative studies; case series

iRest: Integrative restoration. The proportion of included studies naming no tradition at all was 21.4% in review,[20] 30% in,[26] 33.3% in,[27] and 10 of 12 studies in[23]

SUPPLEMENTARY FILES

Supplementary File 1: Database search strategies

Therapeutic effects of yoga nidra on human health: An umbrella review of systematic reviews.

1. Search summary

Database	Fields searched	Date run	Limits	Records
PubMed	Title/Abstract+MeSH	August 2026	English; humans	[28]
Cochrane Library	Title/Abstract/Keyword+MeSH	August 2026	Cochrane Reviews+CDSR	[0]
Scopus	TITLE-ABS-KEY	August 2026	English; DOCTYPE re	[23]
Web of Science	Topic (TS)	August 2026	English; Review document type	[17]
Epistemonikos	Title/Abstract	August 2026	Systematic review classification	[27]

2. PubMed (NLM PubMed interface)

#1 "yoga nidra"[Title/Abstract] OR "yoga-nidra"[Title/Abstract] OR yoga Nidra[Title/Abstract] OR "yogic sleep"[Title/Abstract] OR "psychic sleep"[Title/Abstract] OR "non-sleep deep rest"[Title/Abstract] OR NSDR[Title/Abstract] OR iRest[Title/Abstract] OR ("integrative restoration"[Title/Abstract] AND yoga[Title/Abstract])
#2 "Yoga"[Mesh]
#3 #1 OR (#2 AND ("nidra"[Title/Abstract] OR "yogic sleep"[Title/Abstract]))
#4 review[sb]
#5 #3 AND #4
Filters applied: English[Language]; Humans[Mesh]

3. Cochrane library (Wiley interface)

#1 ("yoga nidra" OR "yoga-nidra" OR yoga Nidra OR "yogic sleep" OR "psychic sleep" OR "non-sleep deep rest" OR NSDR OR iRest OR "integrative restoration"):ti,ab,kw
#2 [mh Yoga]
#3 #1 OR (#2 AND ("nidra" OR "yogic sleep"):ti,ab,kw)
Limit: Cochrane Reviews (CDSR). Publication date to August 2026.

4. Scopus (Elsevier)

TITLE-ABS-KEY ("yoga nidra" OR "yoga-nidra" OR yoganidra OR "yogic sleep" OR "psychic sleep" OR "non-sleep deep rest" OR NSDR OR iRest OR ("integrative restoration" AND yoga))
AND TITLE-ABS-KEY (review OR "meta-analysis" OR "meta analysis")
AND DOCTYPE (re)
AND LANGUAGE (english)
Publication window: to August 2026.

5. Web of science core collection (Clarivate)

#1 TS=("yoga nidra" OR "yoga-nidra" OR yoganidra OR "yogic sleep" OR "psychic sleep" OR "non-sleep deep rest" OR NSDR OR iRest OR ("integrative restoration" AND yoga))
#2 TS=(review OR "meta-analysis" OR "meta analysis")
#3 #1 AND #2
Refine: Document Types = Review Article OR Meta-Analysis;
Languages = English. Timespan: all years to August 2026.

6. Epistemonikos

(title:("yoga nidra" OR "yogic sleep" OR "psychic sleep" OR "non-sleep deep rest" OR NSDR OR iRest OR yoganidra) OR abstract:("yoga nidra" OR "yogic sleep" OR "psychic sleep" OR "non-sleep deep rest" OR NSDR OR iRest OR yoganidra))
Filter: Publication type = review. Language = English.

7. Supplementary search methods

- Forward citation searching: Included reviews were entered into Scopus and Web of Science "cited by" to identify later reviews citing them
- Registry screening: PROSPERO was searched for registered or in-progress umbrella reviews of yoga nidra, to identify concurrent work and any completed reviews not yet indexed.

**All searches were limited to English-language, fully published systematic reviews.*

Supplementary File 2: AMSTAR-2 scoring conventions and companion-checklist definitions

Therapeutic effects of yoga nidra on human health: An umbrella review of systematic reviews

1. AMSTAR-2 rating framework
    - Item verdicts: Yes (Y), partial yes (PY), no (N), or not applicable (N/A). Partial yes reflects partial satisfaction as defined in the AMSTAR-2 guidance and is not counted as a critical flaw
    - Critical domains: items 2, 4, 7, 9, 11, 13 and 15. Non-critical: items 1, 3, 5, 6, 8, 10, 12, 14 and 16
    - Overall confidence: High = no critical flaw and ≤1 non-critical weakness; Moderate = no critical flaw and >1 non-critical weakness; Low = one critical flaw; Critically Low = more than one critical flaw
    - Applicable-domain denominator. For reviews without a meta-analysis, items 11, 12, and 15 are Not Applicable. Two of these (11 and 15) are critical, so five critical domains remain applicable (2, 4, 7, 9, 13). The flaw ratio in Table 3 is therefore reported out of 5 for non-meta-analytic reviews and out of 7 for meta-analytic reviews.

2. Conventions for consistent scoring
    - CONV-1 – Item 2, protocol/registration ladder
        - N: No protocol or registration reported, or a protocol post-dating the reported search
        - PY: Registration cited but the sequence (registration before search) or the pre-specified content cannot be verified from the report or the public record
        - Y: Registration demonstrably prospective against the reported search date, with any deviations disclosed and justified.

Applied verdicts: prospective (Y) – [23,25,26]; unverifiable (PY) – [20,22,27]; retrospective (N) – [18]; no protocol (N) – [19,21,24].

- CONV-2 – Item 9, mixed evidence bases

Where a review included both randomized and non-randomized primary studies, the risk-of-bias approach was scored separately for each stream, and the lower verdict governs, with the split recorded in the justification. A review reaches Y only if an adequate tool was applied to each design present.

- CONV-3 – Item 9, summative quality scales

A domain-level risk-of-bias tool (e.g. Cochrane RoB 2, ROBINS-I) can reach Y. A summative quality scale that returns a single score rather than domain-level bias judgments can reach at most PY for the stream to which it is applied, because it does not isolate the bias-relevant domains AMSTAR-2 requires (allocation concealment, selective reporting). An instrument returning only a percentage of quality-and-reporting criteria met, with no allocation-concealment or selective-reporting item and a permitted "can't tell" response, does not satisfy the item (N).

Applied verdicts: Domain-level tool for each stream (Y) – [19,21,22,24,25]; RoB 2 paired with a summative scale for the non-randomized majority (PY) – [20,26,27]; summative quality-and-reporting instrument only (N) – [18,23].

- CONV-4 – Item 15, publication-bias handling

Item 15 is scored strictly per the instrument: N unless a formal test was performed, regardless of whether declining to test was the statistically correct decision. To preserve the distinction the binary score discards, a three-level descriptor is recorded alongside the item: Tested; declined with an explicit statistical justification; or mentioned without testing.

**Applied: tested (item Y) – [20,26,27]; declined with justification (item N) – [22]; mentioned without testing (item N) – [25]. Not applicable (no meta-analysis) – [18,19,21,23,24]. **

3. Item-specific reading notes

The following notes record how each AMSTAR-2 item was interpreted where the standard guidance leaves room for inconsistency; they were fixed before scoring and applied uniformly.

Item	Reading applied	Common edge case
1	PICO components present in the research question or the inclusion criteria; the time component is optional.	A publication-year window is not a PICO time component; absence of one does not lower the verdict.
3	An explicit rationale for the study designs eligible for inclusion, stated in the methods rather than in retrospective mitigation.	A consequence acknowledged in the discussion ("heterogeneity limited pooling") is not a prospective rationale.
4	Two databases plus one supplementary method (reference lists, registries, experts, grey literature) for PY; a language restriction must be justified, and content-expert consultation is required for Y.	A start-date restriction (rather than searching from inception) is an unjustified limit unless a reason is given.

Item	Reading applied	Common edge case
7	A list of studies read in full text and excluded, with a reason attached to each, for Y.	A citation supplement that names excluded studies with per-study reasons satisfies the item; an aggregate PRISMA count does not.
8	Populations, interventions, comparators, outcomes, designs, setting and follow-up described per study.	Gaps carried faithfully from primary studies (e.g. sex not reported) do not lower the verdict.
13	Risk of bias accounted for when interpreting results, in the body of the discussion.	A caution present in the discussion but absent from the abstract still satisfies the item (recorded as an asymmetry, not scored down).

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses, PICO: Population, intervention, comparison, outcome

4. Companion checklist – definitions and anchors

The companion checklist captures construct-validity and overlap issues specific to yoga nidra that AMSTAR-2 does not assess. Each item is rated Achieved (Y), Partially achieved (PY), Not achieved (N), or not testable (N/A). It is descriptive only.

Item	What it assesses	Anchor for "Achieved" (Y)	Anchor for "Not achieved" (N)
C1. Intervention-construct verification	Whether included studies actually delivered yoga nidra as the review defines it.	Lineage or protocol verified for (near) all included studies against a stated definition.	Studies admitted with no specified tradition, or interventions outside the stated definition included.
C2. Co-intervention separability	Whether yoga nidra can be isolated from bundled asana, pranayama, chanting, or meditation.	Combined-intervention studies excluded, or segregated so yoga nidra effects are separable.	Multi-component packages pooled with standalone yoga nidra without separation.
C3. Comparator-type separation	Whether active and passive/no-treatment comparators are modeled separately.	Active and passive comparators analyzed in separate strata.	Active and passive comparators pooled in a single estimate.
C4. Cohort-duplication detection	Whether the review detects repeated publication of a single participant cohort among its inclusions.	A duplication issue among the review's own inclusions is identified and handled.	An identifiable repeated cohort is counted as independent studies with no acknowledgment.
C5. Controlled analytic architecture	Whether the headline claim rests on controlled between-group data.	Principal estimate derived from controlled between-group comparisons only.	Uncontrolled single-arm pre–post change carried into the abstract or principal claim.

N/A is used where an item cannot be tested – e.g. C3 for a review whose included trials all share one comparator type. Item-level justifications with the specific source location for every verdict are provided in Supplementary File 3.

Supplementary File 3: Companion-checklist justifications

Therapeutic effects of yoga nidra on human health: An umbrella review of systematic reviews

1. Purpose

For each of the ten reviews, this file records the verdict on the five question-specific companion-checklist items (defined in Supplementary File 2) together with the specific basis for each verdict. The checklist is descriptive and was not used to alter any AMSTAR-2 rating. Reviews are identified by reference number as in the main text.

2. Malviya *et al*.[18] – mental health

Item	Verdict	Basis
C1	N	Includes iRest and NSDR studies (7 of 16) alongside classical yoga nidra without a construct check.
C2	N	Multi-component and standalone interventions synthesized together without separation.
C3	N	Comparator type not distinguished; narrative synthesis pools across comparator conditions.
C4	N	Shares a Lucknow program cluster with[26] and does not address cohort duplication.
C5	N	Seven of sixteen studies are single-arm; uncontrolled findings carried into the narrative claim.

3. Sony *et al*.[19] – menstrual

Item	Verdict	Basis
C1	PY	Predominantly Satyananda-lineage trials; construct not verified for every included study.
C2	PY	Largely standalone yoga nidra; separability not explicitly addressed.
C3	Y	Included trials compare yoga nidra against medication-only control; comparator type consistent.
C4	N	Includes multiple Lucknow-program publications without acknowledging cohort overlap.
C5	Y	Findings rest on randomized between-group comparisons.

4. Ghai *et al*.[20] – cardiovascular

Item	Verdict	Basis
C1	N	Admits a commercial recording and a Sri Sri Ravi Shankar protocol; construct not enforced.
C2	N	Combined-intervention studies pooled with standalone yoga nidra.
C3	PY	Separate strata reported, but the "active" stratum includes usual-care and add-on-to-medication controls (three of six systolic-pressure studies), and the "passive" stratum is half single-session studies.
C4	N	Counts Anjana *et al*. (2022) and Rajagopalan *et al*. (2023) as independent trials although they report the same cohort (identical 34-participant intervention arm, same authors and protocol), and rates them differently on RoB 2.
C5	PY	Headline is comparator-stratified, but single-arm pre–post estimates also carried into abstract.

5. Dutta *et al*.[21] – sleep

Item	Verdict	Basis
C1	PY	Most included trials used a Bihar School script, but no lineage criterion is applied at eligibility; the rejection of iRest and NSDR appears only as a recommendation.
C2	PY	Eligibility explicitly admits yoga nidra as part of a combined therapy; two of six trials were bundled (with Om chanting; within a broader daily yoga program). The confound is acknowledged but not separated.
C3	Y	Comparator conditions distinguished in the narrative synthesis.
C4	N/A	No repeated cohort among the review's own inclusions; the Verma duplicate is shared with[22] across reviews, not within this review. Item not testable.
C5	Y	Synthesis rests on randomized between-group data.

6. Singh *et al*.[22] – sleep/insomnia

Item	Verdict	Basis
C1	PY	Excludes iRest but admits a Tibetan module and a non-Satyananda recording as yoga nidra.
C2	Y	Both bundled studies excluded from every pooled analysis, with the reason stated.
C3	PY	Argues the comparator-intensity point explicitly, then pools an active- with a minimal-comparator trial in one model.
C4	Y	The only review to disclose a duplication issue among its own inclusions (Datta enters two of three analyses).
C5	PY	RCT pools are controlled, but a two-study single-arm observational pool is carried into the results.

7. Kachera *et al*.[23] – EEG

Item	Verdict	Basis
C1	N	Ten of twelve studies specify no tradition; three generic meditation/mindfulness studies admitted as adjacent.
C2	Y	Combined-intervention studies segregated into a separate table with its own sub-heading.
C3	Y	Baseline, active-control and no-control comparisons distinguished per study.
C4	N	Counts Kjaer (2002) and Lou (1999) separately (correct here) but does not screen for cohort overlap as a method.
C5	PY	Narrative; several claims rest on within-subject baseline comparisons rather than between-group data.

8. Kim[24] – menstrual

Item	Verdict	Basis
C1	Y	Both included trials verified as Satyananda-lineage yoga nidra against a stated protocol.
C2	Y	Standalone yoga nidra; no bundled co-interventions to separate.
C3	N/A	Both trials share one comparator (medication only); item not testable.
C4	N	Entire evidence base derives from one Lucknow program; redundancy read as homogeneity, not flagged.
C5	Y	Findings rest on randomized between-group comparisons.

9. Ahuja *et al*.[25] – hypertension

Item	Verdict	Basis
C1	N	Construct defined by proportion of session time, admitting biofeedback-assisted relaxation.
C2	PY	Co-interventions documented per study and the ≥50% rule applied, but bundled arms still pooled.
C3	N	Active and passive comparators pooled in a single model.
C4	N/A	No repeated cohort among the review's own inclusions: the Patel 12-month follow-up reports the 1973 cohort (20+20), not the 1975 randomized trial (17+17). Item not testable.
C5	Y	All included studies are controlled (between-group), though of mixed design.

10. Ghai *et al*.[26] – stress/anxiety/depression

Item	Verdict	Basis
C1	N	Admits iRest and NSDR (11 of 73); construct not enforced.
C2	PY	Some separation attempted, but combined-intervention studies contribute to pooled estimates.
C3	PY	Comparator and no-comparator strata reported separately, but the "active" stratum includes standard care and add-on-to-medication controls, and the same trial's control is classified differently from review.[27]
C4	N	Shares Lucknow-cluster and Kalita-pair studies; cohort duplication not addressed.
C5	PY	Comparator-stratified estimates alongside within-group single-arm estimates in the abstract.

iRest: Integrative restoration, NSDR: Non-sleep deep rest

11. Ghai *et al*.[27] – pain

Item	Verdict	Basis
C1	PY	Predominantly named protocols, but two iRest studies admitted.
C2	N	Bundled interventions in four of six active-comparator studies and two of five passive-comparator studies, pooled with standalone yoga nidra.
C3	PY	Strata analyzed separately, but four of six "active" controls are usual care (midwife, standard or antenatal care, medication).
C4	N	Cohort duplication not screened; inconsistent study numbering in supplementary tables.
C5	PY	Within-group pre–post estimate (g−2.01) carried into the abstract; leave-one-out fragility not carried to the abstract.

Verdicts summarized in Table 4 of the main text. Y: Achieved, PY: Partially achieved, N: Not achieved, N/A: Not testable