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REVIEW ARTICLE

Effects of *Yoga Nidra* on Physical, Mental, and Emotional Health Outcomes: A Systematic Review of Randomized Controlled Trials

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ABSTRACT

Background: Yoga Nidra, a guided relaxation practice that originated in ancient Indian traditions, facilitates profound relaxation while maintaining awareness. Despite increasing interest in its benefits for physical, mental, and emotional health, previous reviews have often incorporated combined interventions, thereby diluting evidence regarding its standalone effects. This systematic review synthesized randomized controlled trials (RCTs) evaluating isolated Yoga Nidra to address these gaps.

Materials and Methods: A systematic search was conducted across databases, including PubMed, Embase, Cochrane, Scopus, Web of Science, and PsycINFO, from inception to April 2025. Eligible RCTs included adults with health conditions, standalone Yoga Nidra interventions, and comparators. Two reviewers screened the studies, extracted data, and assessed bias using RoB 2. A narrative synthesis outlined the physical, mental, and emotional outcomes, while heterogeneity precluded a meta-analysis. Subgroup/sensitivity analyses and GRADE certainty ratings were also performed.

Results: Fifteen RCTs were included to address hypertension, stress, insomnia, and menstrual disorders. The physical benefits included reductions in blood pressure and improvements in heart rate variability in 10 studies. The mental outcomes indicated a decrease in anxiety and depression in 11 studies. Emotional enhancement was observed in six studies. No adverse events were reported; RoB was low in four studies, with some concerns in 11.

Conclusion: This systematic review demonstrated that Yoga Nidra exerts a positive influence on physical, mental, and emotional health, with a particular emphasis on reducing anxiety. Despite the limitations posed by study heterogeneity, Yoga Nidra has emerged as a promising evidence-based approach to health promotion. Rigorous and diverse RCTs are necessary to confirm long-term effects and expand the application of integrative care.

1. INTRODUCTION

Yoga Nidra, often referred to as "yogic sleep" or "conscious sleep", is a guided meditation practice with origins in ancient Indian traditions, designed to induce a state of profound relaxation while maintaining awareness.[1,2] This practice, which traces its roots to Tantric scriptures and the Upanishads around 600 BCE, was systematized in the 20th century by Swami Satyananda Saraswati as an accessible form of deep relaxation.[3,4] Distinct from ordinary sleep, Yoga Nidra involves a structured sequence of stages performed in Shavasana (corpse pose), encompassing preparation, sankalpa (resolution), rotation of consciousness through body parts, breath awareness, opposite sensations, visualization, and closure. This multistep process guides the practitioner through the five koshas (sheaths) of human existence: Annamaya (physical), pranamaya (energy), manomaya (mental-emotional), vijnanamaya (wisdom), and anandamaya (bliss), thereby promoting holistic integration. Typically lasting 20–45 min, the practice is inclusive, requires no prior yoga experience, and can be adapted for various populations, from beginners to those with physical limitations.[5]

The proposed mechanisms of Yoga Nidra highlight its significance in promoting mind-body health by integrating ancient philosophical

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concepts with contemporary neuroscience and psychophysiology.[6,7] By fostering parasympathetic dominance, Yoga Nidra reduces sympathetic arousal, thereby decreasing cortisol levels and enhancing heart rate variability (HRV), which contributes to stress resilience and autonomic balance.[8] Neuroimaging studies have demonstrated increased endogenous dopamine release and alterations in cerebral blood flow during practice, activating brain regions associated with relaxation and emotional regulation, such as the dorsolateral pre-frontal cortex and the anterior cingulate.[9] Electroencephalogram (EEG) research indicates a shift toward alpha and theta brainwaves, which are indicative of relaxed wakefulness and reduced rumination, potentially alleviating anxiety and improving sleep architecture.[10] Emotionally, the Sankalpa and visualization stages facilitate subconscious reprogramming, release suppressed emotions, and enhance self-efficacy. Physically, Yoga Nidra may reduce inflammation through cytokine modulation and improve metabolic markers, such as blood glucose.[11,12] These mechanisms are consistent with the biopsychosocial model, positioning Yoga Nidra as a non-pharmacological intervention for integrated health.[13,14]

Existing reviews and evidence highlight Yoga Nidra's potential benefits across the mental, physical, and emotional domains yet reveal notable gaps. Narrative and systematic reviews have consistently reported reductions in stress, anxiety, and depression, with effects comparable to those of mindfulness-based interventions.[15] For instance, Yoga Nidra has shown efficacy in alleviating post-traumatic stress disorder (PTSD) symptoms among veterans and trauma survivors, with improvements in emotional regulation and sleep quality.[16,17] Preliminary studies indicate benefits for hypertension, diabetes management, and pain reduction, including menstrual irregularities and chronic conditions, through enhanced parasympathetic activity and immune function.[18]

Emotional outcomes include increased well-being, vitality, and resilience, as evidenced in populations with burnout or emotional abuse.[19,20] EEG-focused reviews have suggested sustained neuroplastic changes that support long-term cognitive enhancement.[10] However, much of the evidence stems from small-scale trials or narrative syntheses, with heterogeneous methodologies and limited focus on Yoga Nidra as a standalone intervention. Gaps persist in high-quality RCTs, long-term follow-ups, and diverse populations, particularly regarding emotional outcomes, such as self-compassion or resilience.[4,15] Moreover, while the benefits for insomnia and psychosomatic disorders are promising, inconsistencies arise from combined interventions and confounding pure effects.[21]

This systematic review is justified by the need to synthesize high-quality evidence from trials isolating Yoga Nidra, addressing inconsistencies in prior literature, and filling synthesis gaps amid growing interest in accessible mind-body therapies.[22] With mental health burdens escalating globally – exacerbated by pandemics and lifestyle stressors – non-invasive practices, such as Yoga Nidra offer scalable solutions, yet lack consolidated evaluation.[14,23] Emerging studies on standalone efficacy for holistic health underscore timeliness, as previous reviews often include adjunctive yoga forms, thus diluting the specificity. By focusing on RCT's examining Yoga Nidra alone, this review aims to provide rigorous evidence on mental (e.g., anxiety, depression), physical (e.g., cardiovascular, metabolic), and emotional (e.g., well-being, vitality) outcomes, informing clinical applications and future research directions.

2. MATERIALS AND METHODS

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines.[24] This review aimed to synthesize evidence from RCTs evaluating the effects of Yoga Nidra as a standalone intervention on overall health outcomes, encompassing physical, mental, and emotional domains, in adults with health issues.

2.1. Search Strategy

A comprehensive literature search was performed across multiple electronic databases, including PubMed/MEDLINE, Embase, Cochrane Library, Scopus, Web of Science, and PsycINFO, from inception to April 2025. The search strategy combined Medical Subject Headings (MeSH) terms and free-text keywords related to the intervention and outcomes, including: "Yoga Nidra," "yogic sleep," "psychic sleep," "health benefits," "physical health," "mental health," "emotional well-being," "stress," "anxiety," "depression," "hypertension," "diabetes," "pain," "sleep quality," and "mind-body intervention." Boolean operators (AND/OR) were used to refine the query, with no language restrictions initially applied; however, only English-language publications were included in the final analysis. The reference lists of the included studies and relevant reviews were manually searched for additional eligible trials. Two independent reviewers conducted the searches and discrepancies were resolved through discussion or consultation with a third reviewer.

2.2. Eligibility Criteria

Studies were selected based on the Population, Intervention, Comparator, Outcome, and Study design (PICOS) framework. Adults aged >18 years were diagnosed with health issues, including physical (e.g., hypertension, diabetes, chronic pain), mental (e.g., anxiety, depression, stress disorders), and emotional (e.g., burnout, low well-being) conditions. Studies involving healthy adults or pediatric populations (<18 years of age) were excluded.

2.3. Study Selection and Data Extraction

Titles and abstracts were screened independently by two reviewers using Rayyan software.[25] Full-text articles were retrieved from potentially eligible studies and assessed according to the inclusion criteria. Disagreements were resolved by consensus or arbitration by a senior reviewer. Data were extracted independently by two reviewers using a standardized form in Microsoft Excel. The extracted items included study characteristics (author, year, country, design); participant details (sample size, age, sex, baseline health conditions); intervention details (duration, frequency, session length, delivery mode); comparator details; outcome measures (pre- and post-intervention means, standard deviations, or confidence intervals for physical, mental, and emotional outcomes); and follow-up duration.

2.4. Risk of Bias Assessment

The risk of bias in the included RCTs was evaluated using the Cochrane Risk of Bias 2 (RoB 2) tool.[26] The domains assessed included the randomization process, deviations from intended interventions, missing outcome data, measurement of the outcome, and selection of the reported result. Each domain was rated as low risk, some concerns, or high risk, with an overall judgment derived.

2.5. Quantitative Assessment

Data synthesis used narrative methods due to high clinical and methodological heterogeneity, precluding meta-analysis. The outcomes are descriptively summarized in tables, including means, standard deviations, and effect sizes (for example, Cohen's d),

and *P*-values for physical (e.g., blood pressure [BP], HRV, and lipids), mental (e.g., anxiety/depression/stress/insomnia scores), and emotional (e.g., well-being/satisfaction) domains. Heterogeneity was qualitatively assessed based on differences in the population, protocols, and measures. A priori subgroup analyses covered domains (physical/mental/emotional), duration (<8 vs. ≥8 weeks), and conditions (cardiovascular vs. psychological). Sensitivity analyses excluded studies with multiple biases. Evidence certainty was evaluated using GRADE criteria.[27]

3. RESULTS

A total of 677 studies were retrieved from the PubMed/MEDLINE, Embase, Cochrane Library, Scopus, Web of Science, and PsycINFO databases. After removing 85 duplicates, 592 articles were screened on the basis of their titles and abstracts. Of these, 545 were excluded as they did not meet the inclusion criteria. The remaining 47 full-text articles were assessed for eligibility, resulting in 15 studies being included in the final systematic review.[28-42] The PRISMA flow diagram depicting the study selection process is shown in Figure 1.

These studies were published between 2012 and 2024, with sample sizes ranging from 20 to 771 participants (median, $n = 60$). Participants were predominantly adults aged 18–65 years, with a mix of sexes (female-dominant in seven studies, mixed or not reported in others). The baseline conditions included hypertension,[28,29] burnout and stress,[30-34] menstrual disorders,[35-37] chronic insomnia,[38,39] cervical cancer,[40] post-cesarean pain,[41] and healthy yoga practitioners.[42] Interventions involved standalone Yoga Nidra (duration: Single session to 6 months; frequency: Once daily; session length: 11–50 min; delivery: Guided audio/in-person). The comparators included standard care ($n = 7$), waitlist ($n = 3$), active controls (e.g., music, meditation, cognitive behavioral therapy for insomnia; $n = 4$), and crossover designs ($n = 1$). Follow-up ranged from immediate post-session to 6 weeks. In four studies,[38,39,41,42] the risk of bias was assessed as low, while 11 studies raised some concerns, and none were rated as high. The primary issues identified were blinding and self-reported outcomes.

Outcomes were categorized into physical, mental, and emotional health domains, based on the primary measures reported. Narrative synthesis was employed due to heterogeneity in measures and populations, and no meta-analysis was performed. Table 1 summarizes the study's characteristics and key findings.

3.1. Physical Health Outcomes

Ten studies reported physical outcomes, including cardiovascular parameters (BP, HRV), metabolic markers (lipids, glucose, hormones), pain/mobility, sleep architecture, and autonomic/respiratory measures. Significant improvements were noted in most cases, with moderate effect sizes.

Cardiovascular and autonomic benefits were evident in six studies. In hypertensive populations, Yoga Nidra reduced systolic BP (SBP) and diastolic BP (DBP): Anjana *et al*. reported SBP decreases from 152.5 ± 8.9 mmHg to 136.2 ± 7.1 mmHg ($P < 0.05$) and DBP from 98.7 ± 6.4 mmHg to 86.5 ± 5.2 mmHg ($P < 0.05$) over 2 months, compared to minimal changes in controls.[28] Similarly, Das *et al*. observed SBP reductions from 142.2 mmHg to 131.1 mmHg ($P < 0.05$) in alcoholic hypertensives after 1 month.[29] HRV improvements included increased pNN50 and high frequency (HF) power, decreased low frequency (LF)/HF ratio (Markil *et al*., pNN50 from 21.3 ± 16.5% to 27.8 ± 18.9%, $P < 0.05$.[42] Das *et al*., LF/HF from 2.3 to 1.97, $P < 0.05$.[29] Monika *et al*., 30:15 ratio from 1.10 ± 0.12 to 1.25 ± 0.15, $P < 0.05$.[35]). Sharpe *et al*. noted increased RMSSD ($P = 0.05$) and decreased respiration rate (−1.4 bpm during session, $P = 0.03$) in insomniacs.[39]

Metabolic and hormonal effects were reported in four studies. Anjana *et al*. found lipid profile improvements: Total cholesterol (TC) from 210.4 ± 15.2 mg/dL to 185.6 ± 12.3 mg/dL ($P < 0.05$), triglycerides (TG) from 160.2 ± 10.5 mg/dL to 140.8 ± 9.1 mg/dL ($P < 0.05$), with high-density lipoprotein increases (47.8 ± 5.3 mg/dL to 55.2 ± 4.9 mg/dL, $P < 0.05$).[28] Rani *et al*. reported reductions in thyroid-stimulating hormone, follicle-stimulating hormone, luteinizing hormone, and prolactin (all $P < 0.05$) in women with menstrual irregularities after 6 months.[36] Sleep-related physical outcomes included improved total sleep time and sleep efficiency in Datta *et al*. (both $P < 0.0005$) and Moszeik *et al*. (PSQI from 1.02 ± 0.38 to 0.90 ± 0.40, $P < 0.05$).[33]

Pain and mobility enhancements were observed in two studies. Kılıçlı *et al.* reported reduced VAS pain (3.2 ± 1.5 vs. control 5.8 ± 1.7, $P < 0.001$) and improved mobility (PMS: 45.6 ± 10.2 vs. 68.3 ± 12.4, $P < 0.001$) post-cesarean after a single session.[41] Cortisol reductions were noted by Datta *et al*. ($P = 0.041$) and Moszeik *et al*. (area under the curve decrease, $d = 0.1–0.3$, $P < 0.05$).[34] No adverse events were reported across studies, though three noted none explicitly.[28,39,41]

3.2. Mental Health Outcomes

Eleven studies assessed mental outcomes, primarily anxiety, depression, stress, burnout, and insomnia severity, using validated scales (e.g., Hospital Anxiety and Depression Scale [HADS], Generalized Anxiety Disorder 7-item scale [GAD-7], Patient Health Questionnaire-9 [PHQ-9], Insomnia Severity Index [ISI], and Hamilton Anxiety Rating Scale [HAM-A]). Consistent reductions were observed, with small to large effects. Improvements in anxiety and depression were also observed. Nuzhath *et al*. reported HADS anxiety decreases from 12.6 ± 3.1 to 7.2 ± 2.5 ($P < 0.001$) and depression from 12.1 ± 3.2 to 6.8 ± 2.4 ($P < 0.001$) in cervical cancer patients over 6 weeks.[40] Gunjiganvi *et al*. found GAD-7 anxiety reductions from 7.5 ± 3.8 to 3.9 ± 2.9 ($P < 0.001$) and PHQ-9 depression from 8.2 ± 4.1 to 4.5 ± 3.2 ($P < 0.001$) in healthcare workers.[31] Rani *et al*. noted HAM-A anxiety decreases in mild cases from 20.4 ± 2.2 to 14.5 ± 2.1 ($P < 0.05$) and HAM-D depression from 19.8 ± 2.3 to 13.2 ± 2.0 ($P < 0.05$) over 6 months.[36] Ferreira-Vorkapic *et al*. and Datta *et al*. reported similar anxiety reductions ($P < 0.05$ and $P < 0.0005$, respectively).[32,38] Sharpe *et al*. observed an 18% STAI anxiety decrease (non-significant).[39]

Reductions in stress and burnout have been reported by Jinkwan *et al*. (TBS-GMBS score from 3.167 post-intervention, $t = 3.473$, $P < 0.01$), and Moszeik *et al*. (SCCS stress from 2.70 ± 0.72 to 2.49 ± 0.76, $P < 0.05$).[30,33] Moszeik *et al*. noted stress decreases ($d = 0.8$, $P < 0.05$) and rumination reductions.[34] Insomnia improved in a study by Gunjiganvi et al. (Insomnia Severity Index [ISI] from 9.1 ± 4.5 to 5.2 ± 3.6, $P < 0.001$), Datta *et al*. (ISI $P < 0.0005$), and Sharpe *et al.* (feasibility focus-no significant changes).[31,38,39] Mindfulness and Cognitive Enhancement (Mindful Attention Awareness Scale [MAAS] from 4.61 ± 0.90 to 4.78 ± 0.91, $P < 0.05$) and Moszeik *et al.* (facets improved, $P < 0.05$).[33,34]

3.3. Emotional Health Outcomes

Six studies evaluated emotional outcomes, such as well-being, vitality, satisfaction, and positive affect, with generally positive but smaller effects. Well-being improvements were included in the study by Moszeik *et al*. (Satisfaction With Life Scale [SWLS] from 4.61 ±

1.30 to 4.75 ± 1.28, $P < 0.05$; Positive and Negative Affect Schedule [PANAS] from 2.16 ± 0.62 to 1.99 ± 0.61, $P < 0.05$) and Moszeik *et al.* (life satisfaction d=0.24, P < 0.05).[34] Kılıçlı *et al.* reported higher care satisfaction (Newcastle Satisfaction with Nursing Care Scale [NSNCS]: 85.7 ± 8.9 vs. 72.4 ± 9.3, P < 0.001).[41] Ferreira-Vorkapic et al. noted body sensations questionnaire [BSQ] improvements ($P < 0.05$).[32] Sharpe *et al.* observed improved PANAS.[39] Symptom relief in menstrual studies included self-reported emotional benefits, such as reduced cramps and irregularities, though not quantified separately.[35,36] Subgroup analyses indicated stronger effects in longer interventions (≥8 weeks)[28,37] and psychological conditions.[31,32] Sensitivity exclusion of higher-bias studies did not alter the trends.

3.4. Summary of Findings

Of the 15 included RCTs, Yoga Nidra demonstrated consistent benefits in the physical, mental, and emotional health domains, with the strongest evidence for mental health improvements, such as reductions in anxiety, depression, and stress. In physical outcomes, cardiovascular and autonomic enhancements were prominent, particularly in hypertensive and menstrual disorder populations, where BP reductions and HRV increases were statistically significant in multiple studies.[28,29,42] Metabolic benefits, including lipid profile improvements and hormonal balances, were observed in longer-duration trials (≥1 month), suggesting cumulative effects over time.[28,37] Pain and sleep architecture also improved notably in acute and chronic settings, with no reported adverse events reinforcing safety.[38,41]

Mental health findings were robust, with 11 studies showing significant reductions in symptoms, often with moderate-to-large effect sizes in cancer, stress, and insomnia cohorts.[31,34,40] Emotional outcomes, though less frequently measured, indicated enhancements in well-being and satisfaction, particularly in larger samples and online deliveries.[33,41] Overall, the effects were more pronounced in interventions lasting six weeks or more and in guided formats, with subgroup analyses highlighting greater efficacy in psychological versus physical conditions. Heterogeneity-limited meta-analysis, but narrative trends support Yoga Nidra as a versatile, low-risk intervention.

3.5. Risk of Bias Assessment

Using the RoB 2 tool, four studies were judged low risk overall, primarily due to robust randomization, objective measures, and low attrition.[38,39,41,42] These trials often employed computer-generated allocation and blinded outcome assessors to minimize deviations and selection biases. However, even in low-risk studies, participant blinding was challenging due to the nature of the intervention, leading to some concerns in Domain 2 (deviations from interventions) across the board.

The remaining 11 studies had some concerns, mainly in domains 1 (randomization: Method not detailed) and 4 (measurement: Reliance on self-reports without blinding). Attrition was low overall (Domain 3), but uneven dropouts in some cases raised minor issues. No high-risk judgments were made, but protocol adherence concerns (domain 5) were noted in unregistered trials [Figure 2]. Sensitivity analyses, excluding studies with concerns in multiple domains, confirmed consistent findings, although evidence certainty was downgraded for mental/emotional outcomes due to subjectivity.

4. DISCUSSION

The findings of this systematic review of 15 RCTs underscore the potential of Yoga Nidra as a beneficial intervention for physical, mental, and emotional health outcomes in adults with various health conditions [Table 2]. Physically, Yoga Nidra consistently demonstrated reductions in systolic and diastolic BP, improvements in HRV, and positive changes in metabolic markers, such as lipid profiles and hormonal levels, particularly in hypertensive and menstrual disorder populations.[28,29,37] These effects align with the parasympathetic activation mechanisms, supporting enhanced autonomic balance and reduced cardiovascular risk. Mentally, the intervention showed robust reductions in anxiety, depression, stress, and insomnia severity across diverse groups, including cancer patients and healthcare workers, with effect sizes ranging from small to large.[31,34,40] Emotional benefits, though less extensively measured, included increased well-being, life satisfaction, and positive affect, suggesting broader psychosocial improvements.[33,41] Overall, interventions of longer duration (≥8 weeks) and those targeting psychological conditions yielded stronger outcomes, with no adverse events reported, indicating high tolerability.

A comparison of these results to existing reviews reveals both convergence and novel contributions. Narrative reviews, such as Kumari *et al*., emphasize Yoga Nidra's multidimensional effects, including stress reduction and physiological benefits in diabetes and menstrual disorders, mirroring our findings on metabolic and autonomic improvements.[4] Similarly, Nayak *et al*. position Yoga Nidra as a mental health booster, highlighting its efficacy in anxiety and depression through narrative synthesis, which aligns with our mental health outcomes but lacks the quantitative rigor of our RCT-focused approach.[5] Their review notes potential in PTSD and sleep quality, consistent with our insomnia reductions, yet overlooks standalone effects by including combined yoga practices.[38] A more targeted systematic review by Ahuja *et al*. on Yoga Nidra for hypertension reported significant BP reductions (e.g., standardized mean difference −0.85 SBP),[43] corroborating our cardiovascular findings,[38,39] but is limited to hypertension, excluding broader mental and emotional domains covered here. Our review extends these by isolating standalone Yoga Nidra, revealing cross-domain synergies (e.g., cortisol reductions linking physical and mental benefits),[34,38] and addressing gaps in emotional outcomes not emphasized in prior syntheses. Discrepancies arise from methodological heterogeneity; for instance, while Kumari *et al*. speculate on mechanisms, such as pratyahara (sensory withdrawal), our evidence provides empirical support through HRV and cortisol data, though with smaller sample sizes limiting generalizability.[4]

4.1. Limitations of the Current Evidence

Despite promising results, several limitations limit the strength of the evidence. Methodological heterogeneity across studies, including variations in intervention duration (single session to 6 months), frequency (once daily), and delivery modes (audio-guided vs. in-person), precluded meta-analysis, and may explain inconsistent effect sizes. Risk of bias assessments revealed "some concerns" in 11 studies, primarily because of inadequate randomization details and reliance on self-reported outcomes without blinding, potentially inflating subjective mental and emotional benefits [Figure 2]. Small sample sizes (median $n = 60$) and short follow-ups (mostly immediately to 6 weeks) limit long-term efficacy insights and generalizability, particularly to non-Indian populations, as 12 studies were conducted in India, introducing cultural bias that may not fully translate to Western contexts where adaptations for diverse lifestyles and accessibility could be explored. Emotional outcomes were understudied (only six studies), often as secondary measures without standardized tools, and potential publication bias toward positive results may have overlooked

null findings. In addition, while no adverse events were reported, underreporting due to the study design cannot be ruled out.

4.2. Future Directions

Future research should prioritize high-quality, large-scale RCTs with standardized Yoga Nidra protocols to facilitate meta-analyses and elucidate dose-response relationships. Longitudinal designs with extended follow-up periods (≥6 months) are essential for evaluating sustained effects, particularly on emotional resilience and well-being. Integrating objective biomarkers (e.g., EEG or cortisol assays) with self-reports would bolster mechanistic insights and address gaps in the neuroimaging evidence. Expanding to diverse populations, such as Western and elderly groups, alongside head-to-head comparisons with other mind-body practices (e.g., mindfulness), would improve external validity. Investigating moderators, such as adherence rates and practitioner expertise – frequently underreported in existing studies – could optimize applications. Exploring digital or app-based Yoga Nidra delivery will enhance scalability and global accessibility. Finally, cost-effectiveness evaluations would aid in its incorporation into public health frameworks for managing hypertension and mental health conditions.

4.3. Clinical Implications

Yoga Nidra has emerged as a safe and accessible adjunctive therapy for hypertension and related conditions, potentially reducing reliance on pharmacotherapy through BP and stress modulation. Its low-cost, non-invasive nature suits resource-limited settings, with applications in oncology, postpartum care, and occupational stress. Healthcare providers could integrate short sessions (11–30 min) into routines for patients with anxiety or insomnia, complementing guidelines from the American Heart Association on lifestyle interventions. However, clinicians should tailor protocols to individual needs and monitor adherence given the variability in our findings.

5. CONCLUSION

This systematic review consolidates evidence from 15 RCTs, indicating that Yoga Nidra exerts a positive impact on physical, mental, and emotional health, with particularly robust evidence supporting enhancements in mental well-being, such as anxiety reduction. While these findings align with those of previous reviews, this analysis provides greater specificity by concentrating on standalone Yoga Nidra interventions and highlighting interconnected benefits across multiple health domains. Despite certain limitations, including study heterogeneity and potential biases, the findings suggest that Yoga Nidra represents a promising, holistic, and evidence-based approach to health promotion. Future research, particularly well-designed and rigorous clinical trials, is crucial to strengthen the evidence base and to establish its role in integrative medicine.

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7. AUTHORS' CONTRIBUTIONS

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

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9. ETHICAL APPROVALS

Ethical approval was not required for this study, as it was a review article in which data were obtained through a literature search.

10. CONFLICTS OF INTEREST

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

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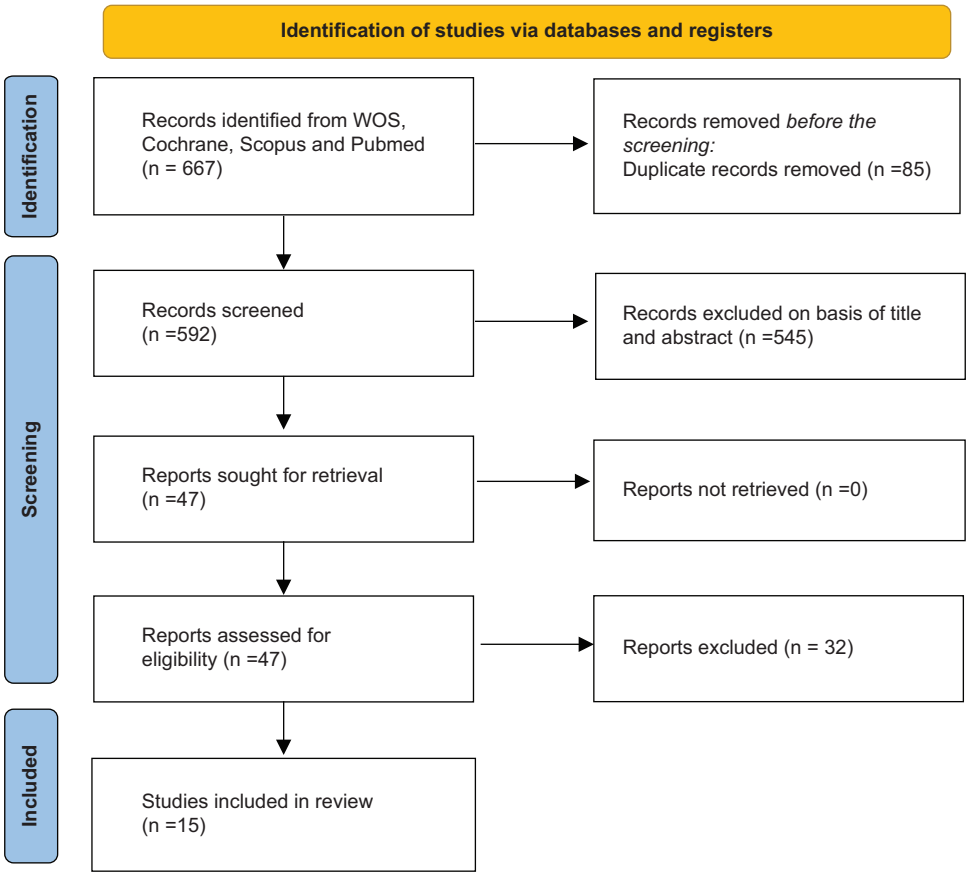

Figure 1: Summarized search strategy (Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram)

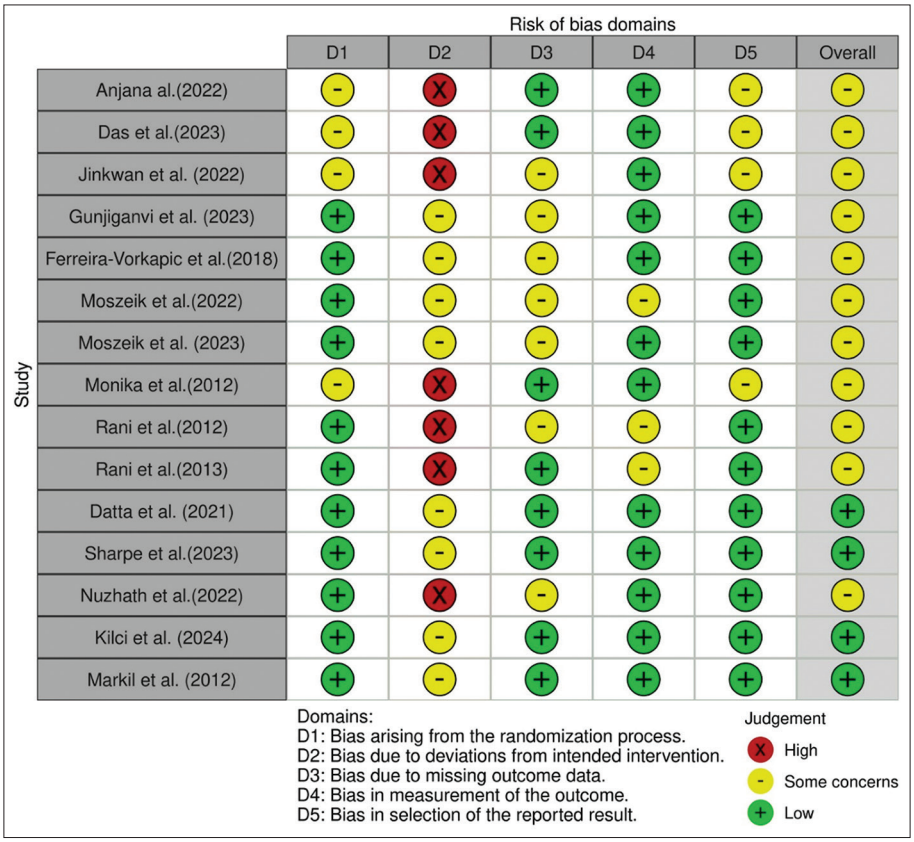

Figure 2: Risk of bias assessment using the RoB 2 tool across included studies.

Table 1: Complete summary of study characteristics and main findings

Study ID (Author *et al*., Year)	N (Int/Con)	Population	Intervention duration/frequency	Physical outcomes (Change, *P*)	Mental outcomes (Change, *P*)	Emotional outcomes (Change, *P*)
Anjana *et al*. 2022	40/40	Hypertension	2 months/5x/week	SBP/DBP ↓, lipids ↓ (*P*<0.05)	NR	NR
Das *et al*. 2023	30/30	Alcoholic hypertension	1 month/daily	SBP/DBP ↓, HRV ↑ (*P*<0.05)	NR	NR
Jinkwan e*t al*. 2022	18/12	Teachers with burnout	NR	NR	Burnout ↓ (*P*<0.01)	NR
Gunjiganvi *et al*. 2023	30/30	Healthcare workers stress	~2 weeks/daily	NR	Anxiety/depression/ insomnia ↓ (*P*<0.001)	NR
Ferreira-Vorkapic *et al*. 2018	20/40	Professors with anxiety/stress	3 months/2×/week	NR	Anxiety/depression/ stress ↓ (*P*<0.05)	Body sensations ↑ (*P*<0.05)
Moszeik *et al*. 2022	341/430	Moderate stress	1 month/daily	Sleep ↑ (*P*<0.05)	Stress ↓, mindfulness ↑ (*P*<0.05)	Well-being ↑ (*P*<0.05)
Moszeik *et al.* 2023	70/70	Stress-seeking adults	2 months/daily	Cortisol ↓ (*P*<0.05)	Anxiety/depression/ stress ↓ (*P*<0.05)	Well-being ↑ (*P*<0.05)
Monika *et al*. 2012	50/50	Menstrual disturbances	6 months/NR	HRV ↑, BP response ↓ (*P*<0.05)	NR	Symptom relief (NS)
Rani *et al*. 2012	65/61	Menstrual with anxiety/depression	6 months/5×/week	NR	Anxiety/depression ↓ (*P*<0.05)	NR
Rani *et al*. 2013	72/54	Menstrual irregularities	6 months/5×/week	Hormones ↓ (*P*<0.05)	NR	Symptom relief (NS)
Datta *et al*. 2021	21/20	Chronic insomnia	NR/5+sessions	TST/SE ↑, cortisol ↓ (*P*<0.05)	ISI/DASS ↓ (*P*<0.0005)	Stress/anxiety ↓ (*P*<0.0005)
Sharpe *et al*. 2023	9/9	Insomnia	Single/once	Respiration ↓, HRV ↑ (*P*<0.05)	Anxiety ↓ (NS)	Positive affect ↑ (NS)
Nuzhath *et al*. 2022	35/35	Cervical cancer	6 weeks/daily	NR	Anxiety/depression ↓ (*P*<0.001)	NR
Kılıçlı *et al*. 2024	64/64	Post-cesarean	Single/once	Pain ↓, mobility ↑ (*P*<0.001)	NR	Satisfaction ↑ (*P*<0.001)
Markil *et al*. 2012	20 (crossover)	Healthy practitioners	Single/once	HRV ↑ (*P*<0.05)	NR	NR

HRV: Heart rate variability, SBP: Systolic blood pressure, DBP: Diastolic blood pressure, ISI: Insomnia severity index, TSE: Total sleep time, SE: Sleep efficiency, NR: Not Reported, NS: Not Significant.

Table 2: GRADE assessment of key outcomes for Yoga Nidra interventions

Outcome	No. of studies (participants)	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Certainty of evidence
Blood pressure (SBP/DBP)	3 (Anjana *et al*., Das *et al*., Monika *et al*., 2012; *n*=240)	Moderate (some concerns in randomization, blinding)	Moderate (consistent direction, variable effect sizes)	Low (directly applicable to hypertensives)	Low (adequate N, narrow CIs)	Suspected (positive results dominant)	Moderate ⊕⊕⊕○
Anxiety	6 (Nuzhath *et al*., Gunjiganvi *et al*., Rani *et al*. 2012, Ferreira-Vorkapic *et al*., Datta *et al*., Moszeik *et al*., 2023; *n*=521)	Serious (self-report, no blinding)	High (NS in Sharpe *et al*. vs. large effects in Gunjiganvi *et al*.)	Low (directly measures anxiety)	Moderate (small N in some, variable CIs)	Suspected	Low ⊕⊕○○
Well-being	3 (Moszeik *et al*., 2022, Moszeik *et al*., 2023, Kılıçlı *et al*.; *n*=1039)	Serious (self-report, high dropout in Moszeik *et al*., 2022)	Moderate (small but consistent effects)	Moderate (secondary outcome, less standardized)	Moderate (large N in Moszeik *et al*., 2022, but small in Kılıçlı *et al*.)	Suspected	Low ⊕⊕○○

SBP: Systolic blood pressure, DBP: Diastolic blood pressure, NS: Not Significant, CIs: Confidence intervals . ⊕⊕⊕○: Moderate certainty, ⊕⊕○○: Low certainty