

# Efficacy of yoga nidra as a Non pharmacological intervention for stress and sleep management :A systematic review

*Dr. Ranjeet kumar*

## **Abstract :**

*Yoga Nidra, or "yogic sleep," is a systematic, guided meditative relaxation technique aimed at inducing profound physical, mental, and emotional relaxation while maintaining full consciousness. With rising global stress and sleep disorders, YN has emerged as a promising, low-cost non-pharmacological intervention. Objective: This study investigates the therapeutic potential of YN on stress, anxiety, depression, and sleep quality across various populations. Methods: A narrative review of existing literature and clinical trials (2000–2025) was conducted, assessing physiological markers (EEG, cortisol, blood pressure) and psychometric measures (anxiety scales, insomnia index). Results: Findings indicate that regular YN practice induces parasympathetic dominance, characterised by increased theta/alpha brainwave activity and reduced sympathetic arousal. Studies consistently demonstrate a significant reduction in chronic anxiety, mild depression, and improved insomnia symptoms (sleep onset latency and total sleep time). Furthermore, YN has been effective in reducing hypertension and improving Somatic symptom disorder Conclusion: Yoga Nidra is a safe, efficient, and cost-effective complementary therapy for improving psychological health and sleep quality. While results are promising, high-quality, randomised controlled trials (RCTs) with larger samples are recommended to solidify its standing in evidence-based medicine.*

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## **Introduction**

Sleep is an essential component of human health, playing a critical role in physical, mental, and emotional well-being. Chronic sleep disorders and insufficient sleep are prevalent issues globally, affecting an estimated 40% of the population in various forms.<sup>1</sup> These sleep disturbances have been linked to a myriad of adverse health outcomes, including increased risks of cardiovascular diseases, diabetes, obesity, depression, and impaired cognitive function.

Conventional treatments for sleep disorders often include pharmacological interventions and cognitive behavioural therapy for insomnia (CBT-I). While these approaches can be effective, they also present limitations such as side effects, dependency, and accessibility issues. Consequently, there is a growing interest in alternative and complementary therapies that may offer safer, more accessible, and holistic approaches to improving sleep quality.

One such intervention that has gained attention in recent years is 'Yoga Nidra,' a form of guided meditation that promotes deep relaxation and stress reduction. Originating from the ancient Indian tradition of yoga, Yoga Nidra often referred to as "yogic sleep," involves a systematic method of inducing complete physical, mental, and emotional relaxation while maintaining a state of conscious awareness. Practitioners are guided through various stages of relaxation, including body scanning, breath awareness, and visualisation, with the goal of reaching a state between wakefulness and sleep. The concept and practice of Yoga Nidra is structurally proposed in the published work by Swami Satyananda Saraswati.

Preliminary research suggests that Yoga Nidra may have beneficial effects on sleep quality and overall well-being. Studies have reported improvements in sleep latency, sleep duration, and sleep efficiency among individuals practicing Yoga Nidra regularly. In addition, it has been suggested that Yoga Nidra may help reduce symptoms of anxiety and depression, which are often comorbid with sleep disorders.

Despite these promising findings, the existing literature on Yoga Nidra and its impact on sleep remains fragmented and varied in methodological quality. This systematic review aims to critically evaluate the evidence on the efficacy of Yoga Nidra as an intervention for improving sleep quality.

## **RESEARCH METHODOLOGY**

### **Protocol registration**

The protocol for this review was not registered in PROSPERO or any other database.

### **Study design**

This systematic review is reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines (checklist at Supplementary Data S1). The primary objective was to evaluate the efficacy of Yoga Nidra on sleep quality and associated psychological outcomes.

### **Search strategy**

A comprehensive literature search was conducted across several electronic databases: PubMed, Cochran Library, PsycINFO, and Scopus. The search included articles published from the inception of each database until 31st March 2025. The search strategy employed a combination of keywords and Medical Subject Headings (MeSH) terms including: “Yoga Nidra,” “Yog Nidra,” “yogic sleep,” “sleep quality,” “insomnia,” “sleep disorders,” “sleep,” and “sleep disturbances.” The terms were combined using Boolean operators (AND, OR), and adopted as per the suitability of the databases. In addition to this, manual searches of reference lists from selected studies and relevant review articles were also conducted to identify additional studies not captured in the initial search. The detailed search strategy is provided in Supplementary Data S2).

#### Inclusion and exclusion criteria

The review included studies that met specific inclusion criteria. The population of interest comprised adults aged 18 and above who experienced self-reported or clinically diagnosed sleep disturbances. The intervention under review was Yoga Nidra, either administered as a standalone approach or as part of a combined therapy. Comparators included control groups receiving no intervention, placebo, or alternative treatments such as standard sleep hygiene education. The primary outcomes evaluated were both objective sleep measures, such as those obtained through polysomnography, and subjective assessments of sleep quality using tools like the Pittsburgh Sleep Quality Index and the Insomnia Severity Index. Secondary outcomes encompassed psychological parameters including anxiety, depression, and stress. Only randomised controlled trials (RCTs) were included in the review. Studies were excluded if they were not available in English, involved participants with severe psychiatric disorders or medical conditions affecting sleep that were not the primary focus of the study, or were conference abstracts, reviews, commentaries, or editorials lacking original data.

## IV. RESULTS AND DISCUSSION

### 4.1 Results of Descriptive Statics of Study Variables

#### Data extraction

Data from eligible studies were extracted independently by two reviewers using a standardised data extraction form. Extracted data included: Study characteristics (author, year, country, study design, comparator, and blinding), Participant characteristics (sample size, age, and gender), details of the intervention (frequency, duration, format of Yoga Nidra sessions, follow-up duration), outcome measures, results, and safety data (including any reported adverse events). Any discrepancies between reviewers were resolved through discussion or consultation with a third reviewer.

#### Risk of Bias (RoB) assessment

The RoB of included studies was assessed independently by two reviewers using the Cochrane RoB Tool for RCTs.<sup>13</sup> This tool evaluates biases in the following domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting, and other potential sources of bias. Studies were categorized as low, moderate, or high RoB based on the assessment.

#### Data synthesis

A narrative synthesis was conducted to summarise the findings from the included studies. Meta-analysis was initially planned, but could not be performed owing to the heterogeneous studies in terms of design, population, interventions, and outcome.

#### Publication bias

Publication bias could not be assessed because of the number of included studies were <10.

#### Results

##### Study selection

The initial search identified 234 articles. After removing duplicates, 137 articles remained for screening. Based on title and abstract screening, 23 articles were selected for full-text review. After applying the inclusion and exclusion criteria, six RCTs met the eligibility criteria and were included in the final review. The study selection process is detailed at Figure 1.

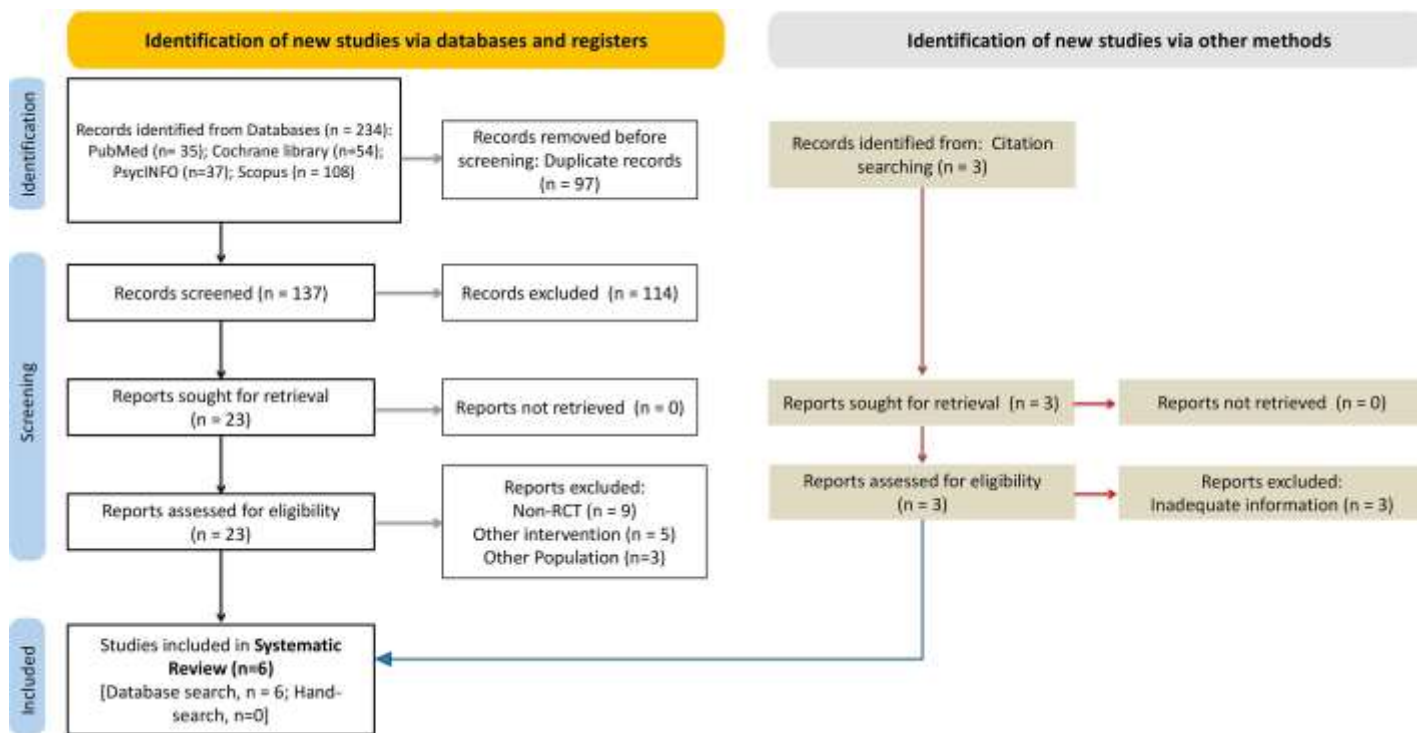


FIG. 1. PRISMA flow diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses. Study characteristics

Six RCTs<sup>7–12</sup> conducted between 2021 and 2023 were included, with five studies from India<sup>7–10,12</sup> and one from the USA.<sup>11</sup> Sample sizes ranged from 18 to 65 participants, with diverse populations including individuals with chronic<sup>7,11</sup> or acute insomnia,<sup>10</sup> hypertension,<sup>10</sup> sportspersons,<sup>12</sup> and COVID-19 health care workers.<sup>9</sup> The interventions varied in duration from two visits to 60 days and typically involved guided Yoga Nidra sessions delivered in-person or via audio recordings. Comparator groups included conventional management,<sup>10,12</sup> progressive muscle relaxation (PMR),<sup>8</sup> music-based relaxation,<sup>9</sup> and CBT-I.<sup>7</sup> Most studies did not employ blinding, and reporting of participant gender was inconsistent across studies.

The interventions and study characteristics are summarised in Table 1.

Study	Sequence Generation	Allocation Concealment	blinding (Participants/Personnel)	Blinding (Outcome Assessors)	Incomplete Outcome Data	Selective Outcome Reporting	Other Sources of Bias
Datta, 2021	LOW	LOW	HIGH	HIGH	HIGH	UNCLEAR	UNCLEAR
Sharpe, 2023	UNCLEAR	LOW	UNCLEAR	UNCLEAR	LOW	LOW	LOW
Rajagopalan, 2022	LOW	LOW	HIGH	HIGH	UNCLEAR	LOW	LOW
Datta, 2022	HIGH	UNCLEAR	HIGH	HIGH	UNCLEAR	LOW	UNCLEAR
Gunjiganvi, 2023	LOW	HIGH	HIGH	HIGH	UNCLEAR	UNCLEAR	LOW
Verma, 2022	LOW	UNCLEAR	HIGH	HIGH	LOW	UNCLEAR	LOW

## Conclusion

This systematic review provides preliminary evidence supporting the potential of Yoga Nidra as a non-pharmacological intervention for improving sleep outcomes, particularly in individuals with insomnia and other health conditions. The findings demonstrate improvements in sleep parameters such as sleep onset latency, total sleep time, sleep efficiency, and wake after sleep onset, as well as in mental health indicators like anxiety and stress. However, included studies had several limitations, including variations in intervention protocols, small sample sizes, potential biases in study designs, and a complete failure to accurately report on adverse events. Despite these challenges, Yoga Nidra appears to show promise for managing sleep disorders, and further high-quality, standardized trials that rigorously monitor and report safety data are needed to confirm its long-term efficacy and broader applicability in clinical settings.