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YOGA AS AN ADJUNCTIVE INTERVENTION FOR OPIOID WITHDRAWAL: A MECHANISTIC NARRATIVE REVIEW

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ABSTRACT **Background:** Opioid withdrawal is characterised by autonomic dysregulation, psychological distress, and a high risk of treatment discontinuation. Pharmacological treatments such as buprenorphine alleviate withdrawal symptoms but often leave residual stress, anxiety, and sleep disturbance. Yoga, integrating physical postures, regulated breathing, and meditative practices, has demonstrated stress- and autonomic-modulating effects across clinical populations; however, its role during opioid withdrawal has not been synthesised. **Methods:** This mechanistic–narrative review synthesised interventional studies examining yoga-based practices in opioid-dependent populations during withdrawal or detoxification. Electronic searches were conducted from January 2000 to January 2026 across PubMed, Scopus, Web of Science, and the Cochrane Library. Studies directly evaluating yoga or yogic breathing interventions during opioid withdrawal or detoxification were included in the Results synthesis. Owing to heterogeneity in interventions and outcomes, findings were synthesised narratively. **Results:** Three interventional studies met inclusion criteria. A recent randomised clinical trial demonstrated that adjunctive yoga was associated with faster withdrawal stabilisation and improved heart rate variability, indicating enhanced parasympathetic activity. Two earlier randomised studies conducted during detoxification or early treatment phases reported improvements in mood, psychological well-being, and quality of life following yoga or yogic breathing interventions. Despite variation in intervention protocols and outcome measures, findings converged on reductions in withdrawal-related distress and improvements in stress-related outcomes. **Conclusions:** Yoga-based interventions may represent a promising adjunctive approach during opioid withdrawal, supported by emerging randomised evidence and a plausible mechanistic framework involving autonomic regulation and stress modulation. Larger, rigorously designed trials incorporating objective physiological markers and long-term follow-up are required to clarify its role within comprehensive treatment pathways for opioid use disorder.

KEYWORDS : Yoga, Opioid Dependence, Withdrawal, Quality of Life, Autonomic Regulation

INTRODUCTION

Opioid use disorder (OUD) remains a major global public health crisis, associated with substantial morbidity, mortality, and socioeconomic burden [1,2]. In 2020, an estimated 16 million individuals worldwide and 3 million in the United States met criteria for OUD, contributing to over 120,000 deaths annually from opioid-related overdoses [3]. The progression from opioid misuse to dependence involves complex neurobiological adaptations, including dysregulation of the brain's reward system, heightened stress responsivity, and chronic alterations in neurotransmitter pathways [4]. Despite the availability of evidence-based pharmacological treatments, such as opioid agonist therapies (e.g. buprenorphine and methadone), early treatment phases—particularly acute withdrawal—remain vulnerable periods marked by high dropout rates and relapse risk [5].

The pathophysiology of opioid withdrawal is multifaceted, involving profound dysregulation of stress-responsive systems. Abrupt cessation or rapid tapering of opioids leads to noradrenergic hyperactivity, sympathetic nervous system overdrive, and suppression of parasympathetic tone, manifesting as physical symptoms (e.g. tachycardia, sweating, pain) and psychological distress (e.g. anxiety, insomnia, dysphoria) [6]. These alterations are reflected in reduced heart rate variability (HRV), a marker of impaired autonomic flexibility and vagal function, which correlates with increased symptom severity and poorer treatment outcomes [7]. Chronic opioid exposure also dysregulates the hypothalamic–pituitary–adrenal (HPA) axis, elevating cortisol and perpetuating allostatic load, whilst neurotransmitter imbalances (e.g. reduced gamma-aminobutyric acid [GABA] and dopamine) exacerbate craving and negative affect [8,9]. Whilst pharmacological interventions mitigate many acute symptoms, they do not fully normalise autonomic or stress-regulatory dysfunction, leaving residual distress that undermines treatment adherence [10].

This therapeutic gap has prompted growing interest in adjunctive, non-pharmacological interventions that target psychophysiological processes implicated in withdrawal. Mind–body interventions, in particular, offer a biologically plausible approach by modulating stress responsivity, autonomic function, and emotional regulation. Such practices, which integrate physical, cognitive, and emotional elements, offer biologically plausible mechanisms for addressing withdrawal's core features [11].

Yoga, a traditional mind–body intervention encompassing physical postures (āsana), regulated breathing (prā□āyāma), and meditation, has demonstrated promise in modulating stress and autonomic function across diverse populations [12,13]. Systematic reviews indicate that yoga enhances parasympathetic activity, reduces HPA axis hyperactivity, and lowers inflammatory markers, leading to decreased perceived stress, anxiety, and cortisol levels [14,15]. For instance, yoga interventions have been associated with increased HRV, improved GABAergic signalling, and enhanced emotional regulation in conditions such as depression, epilepsy, and post-traumatic stress disorder [16]. These effects are mediated through vagal stimulation, limbic system modulation, and neuroplastic changes in reward and stress circuits [17].

In the context of substance use disorders, yoga has been explored broadly, with evidence suggesting benefits for craving reduction and relapse prevention [18,19]. However, its application during opioid withdrawal—where autonomic dysregulation is most acute—has received limited attention. Existing reviews often aggregate heterogeneous substance use disorders or focus on maintenance phases, overlooking withdrawal-specific mechanisms [20,21].

In recent years, emerging interventional studies have begun to provide direct clinical and physiological evidence relevant to this question [22]. These studies offer an opportunity to integrate early clinical findings with established mechanistic knowledge regarding autonomic regulation and stress modulation. The present review therefore adopts a combined mechanistic–narrative approach to synthesise emerging evidence on yoga-based interventions in opioid withdrawal and detoxification. Through this approach, we seek to provide a coherent framework to inform both clinical practice and the design of future trials in the treatment of opioid use disorder.

MATERIALS & METHODS

Design and Search Strategy: This review employed a narrative

approach with mechanistic synthesis due to the limited number of eligible studies and heterogeneity in interventions and outcomes [23]. A narrative format facilitates interpretive integration of early-stage evidence with biological plausibility, whilst avoiding premature quantitative aggregation.

A structured literature search was conducted in PubMed, Scopus, Web of Science, and Cochrane Library from January 2000 to January 2026. Search terms included: 'yoga' OR 'yogic breathing' OR 'pranayama' AND 'opioid' OR 'heroin' OR 'opioid use disorder' AND 'withdrawal' OR 'detoxification' OR 'substitution therapy.' Reference lists of relevant articles were screened for additional studies.

Eligibilty Criteria: Studies were included in the results synthesis if they: (1) investigated yoga-based interventions; (2) involved opioid-dependent participants undergoing withdrawal or detoxification; (3) evaluated withdrawal-relevant outcomes; (4) used an interventional design. Studies focused solely on maintenance therapy, chronic pain without withdrawal context, or non-interventional designs were excluded from results but utilised for contextual support.

Data Extraction and Synthesis: Data extraction included study design, participant characteristics, intervention details, outcomes, and mechanisms. Findings were synthesised narratively, emphasising clinical effects and autonomic/stress pathways. Mechanistic interpretations drew from included studies and established models.

RESULT

Study Selection and Overview: Three interventional studies met the inclusion criteria for this narrative synthesis, examining the effects of yoga-based interventions during opioid withdrawal or detoxification [24–26]. Together, these studies encompassed different stages of opioid dependence treatment, ranging from acute inpatient withdrawal to residential detoxification, and varied outcome measures; their characteristics are presented in Table 1.

Table 1: Characteristics of Included Studies

Study	Design	Setting	Participants (n, Age, Sex)	Inclusion/ Exclusion Criteria	Follow-Up Duration
Goutham et al. (2026)	RCT (2-arm)	Inpatient ward, India	59 males, mean age 25.6 years	Mild-moderate OUD withdrawal (COWS 4–24); excluded severe withdrawal, psychiatric conditions	15 days
Dhawan et al. (2015)	RCT (2:1 rando-misation)	Commu-nity clinic, India	84 males (55 inter-vention, 29 control), mean age 37–39 years	Opioid dependence on buprenorphine ≥6 weeks; excluded severe illness	6 months
Zhuang et al. (2013)	RCT (1:1)	Resi-dential rehab centre, China	75 females, mean age 28.5 years	Heroin dependence in detox; excluded contrain-dications to exercise	6 months

Abbreviations: RCT, randomised clinical trial; OUD, opioid use disorder; COWS, Clinical Opiate Withdrawal Scale; DSM, Diagnostic and Statistical Manual of Mental Disorders; n, number of participants; M, mean (for age); SD, standard deviation; mo, months (for follow-up duration).

Intervention yoga protocols varied across studies, as detailed in Table 2. Two studies were randomised controlled trials, whilst one was a controlled clinical trial focussing on yogic breathing practices. Sample sizes ranged from 59 to 75 participants, with study populations drawn from India and China.

Table 2: Yoga Intervention Details

Study	Yoga Type	Components	Duration/ Frequency	Supervision
Goutham et al. (2026)	Validated module for OUD	Relaxation, postures, breathing (pranayama), guided relaxation	45 min/session, 10 sessions over 14 days	Supervised by certified therapist
Dhawan et al. (2015)	Sudarshan Kriya Yoga (SKY)	Pranayama, Om chanting, rhythmic breathing, meditation/ yoga nidra	12 hours over 3 days initial, then 30 min daily home + weekly clinic	Initial group teaching, supervised clinic sessions
Zhuang et al. (2013)	Hatha yoga	Breathing, meditation, postures (asanas), relaxation	50 min/session, 5 days/week for 6 months	Supervised by experienced instructor

Abbreviations: SKY, Sudarshan Kriya Yoga; OUD, opioid use disorder.

All studies evaluated yoga as an adjunct to standard medical care rather than a standalone intervention. Only one study directly examined withdrawal severity and time to stabilisation as a primary outcome. In a recent early-stage randomised clinical trial, Goutham et al. demonstrated that a structured yoga intervention significantly accelerated recovery from opioid withdrawal when delivered alongside buprenorphine treatment [24]. Participants receiving yoga achieved withdrawal stabilisation (defined as sustained Clinical Opiate Withdrawal Scale scores <4) more than four times faster than controls receiving treatment as usual. Median time to stabilisation was 5 days in the yoga group compared with 9 days in controls, despite comparable cumulative buprenorphine dosing. These findings suggest that yoga may facilitate withdrawal recovery through mechanisms beyond pharmacological symptom suppression, potentially addressing physiological processes that standard medications do not fully target.

Autonomic Regulation and HRV: Goutham et al. was also the only study to investigate autonomic nervous system function using objective physiological measures. Yoga was associated with large and statistically significant improvements in HRV indices, reflecting enhanced parasympathetic activity and improved sympathovagal balance [24]. Mediation analysis indicated that improvements in parasympathetic activity accounted for approximately 23% of the observed treatment effect on withdrawal recovery, supporting autonomic regulation as a plausible mechanistic pathway.

Psychological Outcomes: All three studies reported favourable effects of yoga on psychological outcomes, although outcome measures and populations differed. In the Chinese residential detoxification study by Zhuang et al., a 6-month yoga programme resulted in significant improvements across multiple domains of mood disturbance, including reductions in tension, depression, anger, fatigue, and confusion, alongside increased vigour [26]. Improvements were progressive over time and significantly greater than those observed with routine hospital care alone. Similarly, Dhawan et al. reported improvements in psychological wellbeing and quality of life following a yogic breathing intervention amongst opioid-dependent individuals in India [25]. Although withdrawal severity was not directly measured, the observed improvements in emotional wellbeing are clinically relevant given the strong association between negative affect, craving, and relapse risk during early abstinence.

Quality of Life Outcomes: Two studies explicitly assessed quality of life (QoL). Zhuang et al. demonstrated significant improvements in both physical and mental components of the SF-36 amongst women undergoing heroin detoxification, with gains evident at both 3 and 6 months [26]. These improvements exceeded those seen in the control group receiving standard care. Dhawan et al. also reported enhanced QoL following yogic breathing practices, although the absence of long-term follow-up and limited reporting of effect sizes restricts interpretation [25].

Pain, Sleep, and Anxiety Symptoms: Secondary outcomes related to pain, sleep, and anxiety were most comprehensively assessed by Goutham et al. Yoga produced significant reductions in anxiety scores,

moderate improvements in sleep latency, and reductions in pain intensity compared with controls [24]. These symptom domains are closely linked to autonomic dysregulation and sympathetic overactivity during opioid withdrawal, further supporting a neurobiological mechanism of action. Key outcomes across studies are summarised in Table 3.

Table 3: Summary of Key Outcomes

Study	Primary Outcomes	Secondary Outcomes	Key Findings (Yoga vs. Control)
Goutham et al. (2026)	Withdrawal stabilisation (COWS), HRV parameters	Anxiety (HAM-A), sleep latency, pain	Faster stabilisation (5 vs. 9 days), improved HRV (parasympathetic mediation 23%)
Dhawan et al. (2015)	QoL (WHOQOL-BREF)	Urine drug screens	Improved QoL in physical, psychological, environment domains; 100% abstinence at 6 months
Zhuang et al. (2013)	Mood (POMS), QoL (SF-36)	None specified	Reduced negative mood (tension, depression, fatigue); improved PCS/MCS QoL

Abbreviations: HRV, heart rate variability; QoL, quality of life; WHOQOL-BREF, World Health Organisation Quality of Life-BREF; SF-36, Short Form-36 Health Survey; POMS, Profile of Mood States; HAM-A, Hamilton Anxiety Rating Scale; COWS, Clinical Opiate Withdrawal Scale; HF, high-frequency power; LF/HF, low-frequency/high-frequency ratio; HR, hazard ratio; CI, confidence interval (e.g. 95% CI); PCS, physical component summary; MCS, mental component summary.

DISCUSSION

This narrative review synthesises evidence from three interventional studies examining yoga-based practices during opioid withdrawal and detoxification, with a particular focus on underlying mechanisms. Although the evidence base remains limited, the findings converge to suggest that yoga may exert clinically meaningful effects during early opioid abstinence by targeting core psychophysiological processes implicated in withdrawal, notably autonomic dysregulation, heightened stress responsivity, and affective disturbance.

Goutham et al.'s HRV findings provide direct mechanistic support, demonstrating that yoga restores sympathovagal balance, potentially alleviating noradrenergic hyperactivity central to withdrawal [24,27]. This aligns with yoga's broader effects on vagal tone and HPA axis modulation, reducing cortisol and inflammatory cytokines [28]. Proposed mechanisms, grounded in the studies, are outlined in Table 4.

Table 4: Proposed Mechanisms

Study	Autonomic Mechanisms	Psychological Mechanisms	Evidence
Goutham et al. (2026)	Enhanced parasympathetic tone (↑ HF power, ↓ LF/HF ratio)	Reduced anxiety, improved sleep/pain	Mediation analysis (HRV explains 23% of recovery)
Dhawan et al. (2015)	Stress reduction via rhythmic breathing	Improved wellbeing, abstinence	QoL gains in psychological domain
Zhuang et al. (2013)	Relaxation and mindful awareness	Mood regulation (↓ tension/ depression)	Significant time × group interactions in POMS/SF-36

Abbreviations: ANS, autonomic nervous system; HPA, hypothalamic–pituitary–adrenal axis; GABA, gamma-aminobutyric acid; ↑, increase; ↓, decrease; fMRI, functional magnetic resonance imaging.

Psychological improvements across studies—reduced anxiety, mood disturbance, and enhanced quality of life—may stem from improved interoception and affective regulation [25,26,29]. Breath-focussed practices such as pranayama likely boost GABAergic inhibition, countering withdrawal-induced excitatory imbalance [30]. However, evidence is limited by small samples, male predominance, and short follow-up, precluding relapse assessments.

Clinical Implications: The findings of this review suggest that yoga may serve as a useful adjunctive intervention during opioid withdrawal and detoxification rather than a replacement for pharmacological treatment. Its potential benefits include faster withdrawal stabilisation, reduced psychological distress, improved sleep and pain outcomes, and enhanced quality of life. Importantly, yoga is generally low-cost, scalable, and acceptable to many patients when appropriately adapted to the physical limitations of withdrawal.

Clinical implementation should prioritise gentle, breath-centred, and restorative practices, particularly during the acute withdrawal phase, to avoid excessive physiological strain. Structured protocols delivered by trained instructors within supervised treatment settings may maximise safety and adherence. Integration with medication-assisted treatment may improve retention.

Limitations and Future Directions; The current evidence base is limited by a small number of heterogeneous studies, with only one trial directly assessing opioid withdrawal severity and autonomic function, rendering conclusions preliminary and precluding quantitative synthesis. Interventions, outcome measures, and mechanistic assessments varied substantially, with most studies relying on self-reported outcomes and few incorporating objective autonomic or neurobiological markers. Participant samples were geographically narrow and under-representative, and long-term outcomes such as relapse and sustained recovery were not evaluated. Despite these limitations, convergent clinical and mechanistic signals support yoga as a biologically plausible adjunct targeting stress and autonomic dysregulation during opioid withdrawal. Well-powered, standardised trials with objective mechanistic endpoints and long-term follow-up are now required to define its therapeutic role. Protocols such as OUDARYAM (Opioid use disorder and role of yoga as an adjunct in management) may address these gaps [31].

CONCLUSION

This review integrates emerging clinical and physiological evidence indicating that yoga may serve as a promising adjunct during opioid withdrawal. Across a limited but convergent set of interventional studies, yoga was associated with reduced withdrawal-related distress, improved psychological wellbeing, and favourable modulation of autonomic function. These effects align with core stress and autonomic mechanisms that contribute to withdrawal severity and are incompletely addressed by pharmacological treatment alone. Whilst not a standalone therapy, yoga may enhance comfort, engagement, and early stabilisation when delivered alongside standard medical care. However, conclusions remain constrained by the small and heterogeneous evidence base, underscoring the need for rigorously designed trials incorporating objective mechanistic outcomes and longer-term follow-up.

REFERENCES

1. Substance Abuse and Mental Health Services Administration. Key substance use and mental health indicators in the United States: Results from the 2020 National Survey on Drug Use and Health. Rockville, MD: SAMHSA; 2021.
2. Nguyen A, Wang J, Holland KM, Ehlman DC, Welder LE, Miller KD, et al. Trends in drug overdose deaths by intent and drug categories, United States, 1999□2022. Am J Public Health. 2024 Oct;114(10):1081-5. doi:10.2105/AJPH.2024.307745
3. Jiang W, Zhao Z, Zhu B. Trend analysis and future projections of global burden of opioid use disorder (OUD) from 1990 to 2030. Front Pharmacol. 2025 Nov 25;16:1669269. doi:10.3389/fphar.2025.1669269
4. Koob GF, Volkow ND. Neurobiology of addiction: a neurocircuitry analysis. Lancet Psychiatry. 2016 Aug;3(8):760-73. doi:10.1016/S2215-0366(16)00104-8
5. Pergolizzi Jr JV, Raffa RB, Rosenblatt MH. Opioid withdrawal symptoms, a consequence of chronic opioid use and opioid use disorder: current understanding and approaches to management. J Clin Pharm Ther. 2020 Oct;45(5):892-903. doi:10.1111/jcpt.13114
6. Ware OD, Ellis JD, Dunn KE, Hobelmann JG, Finan P, Huhn AS. The association of chronic pain and opioid withdrawal in men and women with opioid use disorder. Drug Alcohol Depend. 2022 Nov;240:109631. doi:10.1016/j.drugalcdep.2022.109631
7. Shah M, Huecker MR. Opioid withdrawal. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 [updated 2023 Jul 21]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK526012/
8. Koob GF, Volkow ND. Neurocircuitry of addiction. Neuropsychopharmacology. 2010 Jan;35(1):217-38. doi:10.1038/npp.2009.110
9. Volkow ND, Koob G. Brain disease model of addiction: why is it so controversial? Lancet Psychiatry. 2015 Aug;2(8):677-9. doi:10.1016/S2215-0366(15)00236-9
10. Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. Cochrane Database Syst Rev. 2014 Feb 6;(2):CD002207. doi:10.1002/14651858.CD002207.pub4
11. Taylor AG, Goehler LE, Galper DI, Innes KE, Bourguignon C. Top-down and bottom-up mechanisms in mind-body medicine: development of an integrative framework for psychophysiological research. Explore (NY). 2010 Jan;6(1):29-41. doi:10.1016/j.explore.2009.10.004
12. Pascoe MC, Thompson DR, Ski CF. Yoga, mindfulness-based stress reduction and stress-related physiological measures: a meta-analysis. Psychoneuroendocrinology. 2017 Dec;86:152-68. doi:10.1016/j.psyneuen.2017.08.008
13. Streeter CC, Gerbarg PL, Saper RB, Ciraulo DA, Brown RP. Effects of yoga on the autonomic nervous system, gamma-aminobutyric-acid, and allostasis in epilepsy, depression, and post-traumatic stress disorder. Med Hypotheses. 2012 May;78(5):571-9. doi:10.1016/j.mehy.2012.01.021

14. Streeter CC, Whitfield TH, Owen L, Rein T, Karri SK, Yakhkind A, et al. Effects of yoga versus walking on mood, anxiety, and brain GABA levels: a randomised controlled MRS study. J Altern Complement Med. 2010 Nov;16(11):1145-52. doi:10.1089/acm.2010.0007
15. Cramer H, Lauche R, Anheyer D, Pilkington K, de Manincor M, Dobos G, Ward L. Yoga for anxiety: A systematic review and meta-analysis of randomized controlled trials. Depress Anxiety. 2018 Sep;35(9):830-843. doi: 10.1002/da.22762.
16. Schmalzl L, Powers C, Henje Blom E. Neurophysiological and neurocognitive mechanisms underlying the effects of yoga-based practices: towards a comprehensive theoretical framework. Front Hum Neurosci. 2015 May 8;9:235. doi:10.3389/fnhum.2015.00235
17. Gard T, Noggle JJ, Park CL, Vago DR, Wilson A. Potential self-regulatory mechanisms of yoga for psychological health. Front Hum Neurosci. 2014 Sep 30;8:770. doi:10.3389/fnhum.2014.00770
18. Khanna S, Greeson JM. A narrative review of yoga and mindfulness as complementary therapies for addiction. Complement Ther Med. 2013 Jun;21(3):244-52. doi:10.1016/j.ctim.2013.01.008
19. Krishnan A. Integrative Treatment for Substance Use Disorders: Improving Outcomes Through Evidence-based Practice of Yoga-derived Breathwork and Meditation. J Addict Med. 2024 Mar-Apr 01;18(2):103-109. doi: 10.1097/ADM.0000000000001263.
20. Posadzki P, Choi J, Lee MS, Ernst E. Yoga for addictions: a systematic review of randomised clinical trials. Focus Altern Complement Ther. 2014 Mar;19(1):1-8. doi:10.1111/fct.12080
21. Posadzki P, Khalil MM, AlBedah AM, Zhabenko O, Car J. Complementary and alternative medicine for addiction: an overview of systematic reviews. Focus Altern Complement Ther. 2016 Jun;21(2):69-81. doi:10.1111/fct.12255
22. Lander L, Chiasson-Downs K, Andrew M, Rader G, Dohar S, Waibogha K. Yoga as an adjunctive intervention to medication-assisted treatment with buprenorphine + naloxone. J Addict Res Ther. 2018;9(1):354. doi: 10.4172/2155-6105.1000354.
23. Ferrari R. Writing narrative style literature reviews. Med Writ. 2015 Dec;24(4):230-5. doi:10.1179/2047480615Z.000000000329
24. Goutham S, Bhargav H, Holla B, Mahadevan J, Nagendra RP, Jasti N, Narasimha VL, Mehta UM, Varambally S, Venkatasubramanian G, Chand P, Gangadhar BN, Hill KP, Keshavan M, Murthy P. Yoga for Opioid Withdrawal and Autonomic Regulation: A Randomized Clinical Trial. JAMA Psychiatry. 2026 Jan 7:e253863. doi: 10.1001/jamapsychiatry.2025.3863.
25. Dhawan A, Chopra A, Jain R, Yadav D. Effectiveness of yogic breathing intervention on quality of life of opioid dependent users. Int J Yoga. 2015 Jul-Dec;8(2):144-7. doi:10.4103/0973-6131.154075
26. Zhuang SM, An SH, Zhao Y. Yoga effects on mood and quality of life in Chinese women undergoing heroin detoxification: a randomised controlled trial. Nurs Res. 2013 Jul-Aug;62(4):260-8. doi:10.1097/NNR.0b013e318292379b
27. Moon SJ, Schlenk EA, Lee H. Heart rate variability in adults with substance use disorder: a comprehensive narrative review. J Am Psychiatr Nurses Assoc. 2024 Mar;30(2):240-51. doi:10.1177/10783903221145142
28. Pascoe MC, Bauer IE. A systematic review of randomised control trials on the effects of yoga on stress measures and mood. J Psychiatr Res. 2015 Sep;68:270-82. doi:10.1016/j.jpsychires.2015.07.013
29. Cramer H, Rabsilber S, Lauche R, Kümmel S, Dobos G. Yoga and meditation for menopausal symptoms in breast cancer survivors-A randomized controlled trial. Cancer. 2015 Jul 1;121(13):2175-84. doi: 10.1002/cncr.29330.
30. Szaszkó B, Tschenett H, Ansorge U, Nater UM. Hatha yoga reduces momentary stress but does not impact diurnal profiles of salivary cortisol and alpha-amylase: a randomised controlled trial. Psychoneuroendocrinology. 2025 Jan;171:107191. doi:10.1016/j.psyneuen.2024.107191
31. Bhargav H, Holla B, Mahadevan J, Jasti N, Philip M, Sharma P, A V, Meherwan Mehta U, Varambally S, Venkatasubramanian G, Chand P, Bn G, Hill KP, Bolo NR, Keshavan M, Murthy P. Opioid use disorder and role of yoga as an adjunct in management (OUDARYAM): Study protocol for a randomized controlled trial. Wellcome Open Res. 2024 Jan 3;9:4. doi: 10.12688/wellcomeopenres.19392.1.