

HARMONY OF MIND AND BODY: EXPLORING THE IMPACT OF YOGA ON MENTAL HEALTH – A SYSTEMATIC REVIEW

Shubhi Tamrakar¹, Kunal Dudeja², Parijat Kamble³, Sneha B Suresh⁴, Sharnam Gupta⁵, Yogesh S⁶, Selvasri Srinivasan⁷, Prashanth A⁸, Gaurav Mittal⁹, Ravi Sangoi¹⁰

Received : 05/10/2023
Received in revised form : 02/11/2023
Accepted : 11/11/2023

Keywords:
Yoga, Mental Health.

Corresponding Author:
Dr. Gaurav Mittal,
Email: mittalgaurav742002@gmail.com

DOI: 10.47009/jamp.2023.5.6.81

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2023; 5 (6); 387-390



¹Department of Physiology, Dr. DY Patil School of Medicine, Mumbai, India.

²Department of Psychiatry, Maharajah's Institute of Medical Sciences, Nellimarla, India.

³Department of General Medicine, Terna Medical College, Mumbai, India.

⁴Department of Psychiatry, Jawaharlal Nehru Medical College, Sawangi, India.

⁵Department of Ophthalmology, Raipur Institute of Medical Sciences, Raipur, India.

⁶Department of Internal Medicine, Madras Medical college, Chennai, India.

⁷Department of Community Medicine, Lokmanya Tilak Medical College, Mumbai, India.

⁸Department of Physiology, Mahatma Gandhi Institute of Medical Sciences, Wardha, India.

⁹Department of Research, The Rotaract Club of Indian Medicos, Mumbai, India.

¹⁰Department of Psychiatry, Government Medical College, Baramati, India.

Abstract

Background: Mental health is vital for personal and societal well-being, impacting relationships and productivity. Yoga, with its stress-reducing benefits, has gained popularity, offering a holistic approach to health. Research explores yoga's potential in addressing various health issues, from stress to chronic diseases. This exploration aims to uncover the science behind yoga's role in mental health, offering hope for individuals seeking emotional equilibrium and healing. The aim of this study is to analyse and summarize all the current knowledge concerning yoga as an effective technique for improving mental health. **Materials and Methods:** This systematic review was performed following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria. Electronic databases Medline (PubMed), Scopus and Google scholar were examined. **Result:** The cumulative evidence from these studies strongly supports the therapeutic benefits of yoga across various domains of mental health and well-being. The positive outcomes observed in self-care, mindfulness, emotional exhaustion, depersonalization, perceived stress, sleep quality, and overall resilience underscore the versatility of yoga as a holistic intervention. Moreover, the statistically significant differences in favour of yoga for reducing symptoms of depression, enhancing mental health, and alleviating work-related stress demonstrate its potential to address both clinical and occupational aspects of mental well-being. As we continue to explore the multifaceted effects of yoga, it becomes increasingly clear that it offers a valuable tool for enhancing the mental health and quality of life of diverse populations. **Conclusion:** The connection between yoga and mental health is grounded in its holistic philosophy, emphasizing the interrelation of mind and body. Extensive research, including systematic reviews and neuroimaging studies, consistently supports yoga's therapeutic potential for mental well-being. This underscores its significance as a holistic and accessible approach to address mental health challenges, emphasizing the need for further exploration and integration into mental healthcare. As our scientific understanding deepens, yoga emerges as a valuable tool for promoting mental health and overall well-being in today's hectic world.

INTRODUCTION

Mental health is a cornerstone of overall well-being and a vital component of personal and societal health, impacting relationships, productivity, and quality of life. Prioritizing mental health is essential for

fostering resilience, and enhancing individual and collective flourishing. The rise in stress among adults, particularly work-related stress, has led to problems with job performance, absenteeism, burnout, and compromised psychological and physiological health.^[1,2]

Yoga has gained popularity as an accessible and stress-reducing practice, with a significant increase in the number of people practicing yoga over the years.^[3,4] There are well-documented consequences of stress on physiological health, and yoga has been found to be as effective or better than dynamic, aerobic exercise in improving health-related outcomes.^[3,5] It has been practiced for thousands of years and has emerged as a health maintenance practice and therapeutic intervention in the early 20th century.^[6]

Research has explored the potential of yoga in addressing a variety of health conditions, including mental stress, obesity, diabetes, hypertension, coronary heart disease, and chronic obstructive pulmonary disease.^[7-9] Numerous individual studies have demonstrated the therapeutic benefits of yoga for these ailments, suggesting its viability as a non-pharmaceutical approach or as a complementary option alongside drug therapy.^[9-11]

This introduction serves as a gateway to explore the symbiotic relationship between yoga and mental health. We will embark on a journey to uncover the scientific underpinnings and practical applications of yoga as a powerful tool for managing stress, anxiety, depression, and a range of mental health challenges. As we delve deeper, we will discover how the ancient wisdom of yoga can empower individuals to cultivate a state of mental equilibrium and emotional well-being in their modern lives.

From anxiety and depression to stress management and post-traumatic stress disorder (PTSD), yoga serves as a transformative agent of healing and restoration.^[12] World Health Organization does not explicitly define spiritual health as a separate dimension, it recognizes the interplay between spirituality, mental health, social well-being, and overall health.^[13]

Despite the widespread use of yoga as a mind-body medicine for health promotion, disease prevention, and as a possible treatment modality for neurological disorders, there is a lack of evidence-based review on its effects in various neurological conditions.^[14-16]

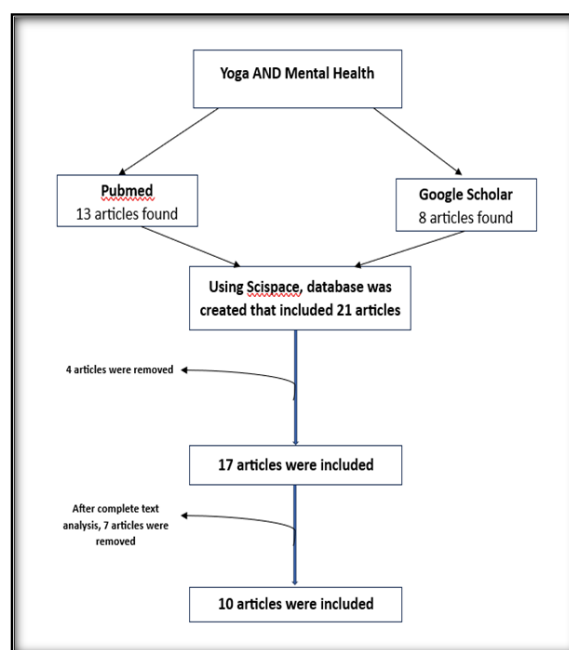
Objective: The aim of this study is to analyse and summarize all the current knowledge concerning yoga as an effective technique for improving mental health.

MATERIALS AND METHODS

Identification: This systematic review was performed following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria. Electronic databases Medline (PubMed), Scopus and Google scholar were examined. The following search algorithm was applied – YOGA AND MENTAL HEALTH. Eligible studies were selected through a multi-step approach (title reading, abstract and full-text assessment).

Study selection and Eligibility Criteria: Search results found in databases were screened. A first selection was performed by filtering duplicates and subsequently, a title and abstract screening was conducted. All potentially relevant articles were then independently reviewed for full text and assessed for eligibility. Studies were considered for inclusion if they explored the utilization of yoga for the enhancement of mental health. Studies from 2013 to 2023 were included during the study selection. The following flowchart depicts the process of selection.

Flowchart



RESULTS

Table 1:

Authors	Year	Results
Rachel et al, ^[3]	2017	Gym yoga was found to be effective in reducing stress and improving psychological health among workers experiencing stress over a period of 16 weeks. The Yoga group showed significant reductions in stress, anxiety, and general psychological health, as well as significant increases in well-being compared to the control group.
Granath et al, ^[17]	2013	The cognitive behaviour therapy program showed medium-to-high effect sizes for variables such as perceived stress, stress behaviour, exhaustion, anger, and quality of life. The yoga program also showed improvements in stress and other symptoms, with effect sizes ranging from medium to high for variables such as quality of life and exhaustion. Overall, the results suggest that both cognitive behaviour therapy and yoga are promising techniques for stress management.
Alexander et al, ^[18]	2015	The yoga group showed a significant improvement in self-care, mindfulness, emotional exhaustion, and depersonalization outcomes compared to the control group. Preliminary analyses revealed a pattern of significant relationships among the outcomes of interest at baseline, suggesting the use of

		repeated measures MANOVA. The results showed a significant multivariate main effect of time and a significant multivariate interaction effect of time by group.
Yuchen et al, ^[11]	2022	The study included 80 MS patients, with 30 in the Baduanjin exercise group, 30 in the yoga group, and 20 in the control group. Both the Baduanjin exercise group and the yoga group showed significant improvements in balance, posture control, and trunk movement compared to the control group. The Baduanjin exercise group had greater increases in balance and trunk movement compared to the yoga group. Both the Baduanjin exercise group and the yoga group showed significant reductions in fatigue, with no significant difference between the two groups. The Baduanjin exercise group had a larger reduction in depressive symptoms compared to the yoga group. The control group did not show any significant changes in balance, posture control, fatigue, or depressive symptoms.
Ganesh et al, ^[19]	2021	The study included 96 participants, with 48 in the yoga group and 48 in the control group. 81 participants completed the study. The yoga group showed statistically significant improvements in sleep quality and constipation-related quality of life compared to the control group. The yoga group had significant decreases in constipation-related physical discomfort, psychological discomfort, worries concern, and total scores. The yoga group showed significant changes in subjective sleep quality, sleep duration, sleep disturbance scores, and daytime functioning.
Hagen et al, ^[20]	2023	The joint survey result with all participants in the 8-week yoga course showed reduced perceived stress, fewer sleep issues, and improved overall wellbeing. These findings were statistically significant, with moderate effect sizes for the changes.
Kwok et al, ^[21]	2019	The study compared the effects of a mindfulness yoga program and stretching and resistance training exercise (SRTE) on psychological distress, physical health, spiritual well-being, and health-related quality of life (HRQOL) in patients with mild-to-moderate Parkinson's disease (PD). The yoga group showed significantly better improvement in outcomes compared to the SRTE group, particularly for anxiety.
Manicor et al, ^[13]	2016	The study found statistically significant differences in favour of yoga for reducing symptoms of depression compared to regular care alone. Differences in reduced anxiety scores were not statistically significant. Statistically significant differences in favour of yoga were found on total DASS, K10, SF12 mental health, SPANE, FS, and resilience scores.
Fang et al, ^[6]	2015	Nurses in the yoga group had better sleep quality and lower work stress compared to nurses in the non-yoga group. The linear regression model indicated that nursing experience, age, and yoga intervention were significantly related to sleep quality. The number of nurses with high work stress was significantly different between the yoga group and the non-yoga group after six months of follow-up.
Method et al, ^[22]	2017	The study recruited 100 nursing students, with 50 participants in each group (yoga intervention and wait list control). After dropouts, there were 80 students left for analysis. The yoga group showed improvements in resilience, perceived stress, self-compassion, and mindfulness compared to the wait list control group. Post-hoc analysis with Bonferroni adjustment showed significant improvement within the yoga group for self-compassion and mindfulness.

DISCUSSION

Yoga offers an effective method of managing and reducing stress, anxiety, and depression. Numerous studies have demonstrated its efficacy in improving mood-related disorders. Yoga is not only beneficial for physical diseases but also for emotional, intellectual, and personality layers of the human entity. It provides a holistic path of healing and promotes inner peace and well-being.^[10] Assessments were conducted at baseline and at the end of the 8-week intervention period, and significant improvements were observed in self-care, mindfulness, emotional exhaustion, and depersonalization outcomes in the yoga group compared to the control group.^[18] Yoga has showed significant improvements in sleep quality, including subjective sleep quality, sleep duration, sleep disturbance scores, and daytime functioning. The multi-system effects of yoga make it beneficial for physiologically compromised groups like the elderly population.^[19] In the realm of occupational medicine, numerical measures can enhance the mental and physical health of healthcare professionals, such as adjusting work shift schedules or modifying the timing and length of their breaks.^[23] The available literature suggests that yoga and other mind-body meditation programs offer innovative solutions that have been scientifically acknowledged as effective approaches for increasing empathy, alleviating stress,

and addressing physical work-related concerns.^[22,24] yoga program showed significant improvements in psychological and physiological measurements, including self-rated stress, stress behaviour, anger, exhaustion, quality of life, blood pressure, heart rate, urinary catecholamines, and salivary cortisol.^[17]

CONCLUSION

The link between yoga and mental health is not merely coincidental but grounded in the fundamental principles of this holistic discipline. Yoga's philosophy acknowledges that a healthy mind and body are intrinsically intertwined, and it provides a pathway towards achieving balance, resilience, and tranquillity in our increasingly chaotic world. The extensive body of literature examining the benefits of yoga in improving mental health offers compelling evidence for its therapeutic potential. From systematic reviews to rigorous randomized controlled trials and neuroimaging studies, the research consistently underscores the positive impact of yoga on mental well-being. These findings not only highlight the significance of yoga as a holistic and accessible approach to addressing mental health challenges but also underscore the need for continued exploration, refinement, and integration of yoga-based interventions in mental healthcare. As the scientific understanding of yoga's benefits deepens, it is increasingly clear that this ancient practice has a

valuable role to play in promoting mental health and fostering overall well-being in our modern world.

Acknowledgements

The Authors would like to acknowledge and give a special mention about Mr. Ravi Sangoi for his timeless effort and exceptional skillset he devoted in the drafting of this article. The publication wouldn't have been successful without his immense contribution.

REFERENCES

1. P. Reviewed, "a Study on Examination Anxiety Among Secondary School Students of," vol. 816, no. 9, pp. 5–9, 2021, doi: 10.17051/ilkonline.2021.02.223.
2. E. I. de Bruin, A. R. Formsa, G. Frijstein, and S. M. Bögels, "Mindful2Work: Effects of Combined Physical Exercise, Yoga, and Mindfulness Meditations for Stress Relieve in Employees. A Proof of Concept Study," *Mindfulness (N. Y.)*, vol. 8, no. 1, pp. 204–217, 2017, doi: 10.1007/s12671-016-0593-x.
3. R. E. Maddux, D. Daukantaitė, and U. Tellhed, "The effects of yoga on stress and psychological health among employees: an 8- and 16-week intervention study," *Anxiety, Stress Coping*, vol. 31, no. 2, pp. 121–134, 2018, doi: 10.1080/10615806.2017.1405261.
4. M. Demiralp, F. Oflaz, and S. Komurcu, "Effects of relaxation training on sleep quality and fatigue in patients with breast cancer undergoing adjuvant chemotherapy," *J. Clin. Nurs.*, vol. 19, no. 7–8, pp. 1073–1083, 2010, doi: 10.1111/j.1365-2702.2009.03037.x.
5. R. Pal, D. Adhikari, M. B. Bin Heyat, I. Ullah, and Z. You, "Yoga Meets Intelligent Internet of Things: Recent Challenges and Future Directions," *Bioengineering*, vol. 10, no. 4, pp. 1–25, 2023, doi: 10.3390/bioengineering10040459.
6. R. Fang and X. Li, "A regular yoga intervention for staff nurse sleep quality and work stress: a randomised controlled trial," *J. Clin. Nurs.*, vol. 24, no. 23–24, pp. 3374–3379, 2015, doi: 10.1111/jocn.12983.
7. D. K. Taneja, "Yoga and health," *Indian J. Community Med.*, vol. 39, no. 2, pp. 68–72, 2014, doi: 10.4103/0970-0218.132716.
8. D. Prabhakaran et al., "Yoga-Based Cardiac Rehabilitation After Acute Myocardial Infarction: A Randomized Trial," *J. Am. Coll. Cardiol.*, vol. 75, no. 13, pp. 1551–1561, 2020, doi: 10.1016/j.jacc.2020.01.050.
9. A. Lundt and E. Jentschke, "Long-Term Changes of Symptoms of Anxiety, Depression, and Fatigue in Cancer Patients 6 Months After the End of Yoga Therapy," *Integr. Cancer Ther.*, vol. 18, 2019, doi: 10.1177/1534735418822096.
10. C. Woodyard, "Exploring the therapeutic effects of yoga and its ability to increase quality of life," *Int. J. Yoga*, vol. 4, no. 2, p. 49, 2011, doi: 10.4103/0973-6131.85485.
11. Y. Pan, Y. Huang, H. Zhang, Y. Tang, and C. Wang, "The effects of Baduanjin and yoga exercise programs on physical and mental health in patients with Multiple Sclerosis: A randomized controlled trial," *Complement. Ther. Med.*, vol. 70, no. March, p. 102862, 2022, doi: 10.1016/j.ctim.2022.102862.
12. B. A. Van Der Kolk et al., "Yoga as an adjunctive treatment for posttraumatic stress disorder: A randomized controlled trial," *J. Clin. Psychiatry*, vol. 75, no. 6, pp. 1–7, 2014, doi: 10.4088/JCP.13m08561.
13. M. de Manincor et al., "Individualized Yoga for Reducing Depression and Anxiety, and Improving Well-Being: a Randomized Controlled Trial," *Depress. Anxiety*, vol. 33, no. 9, pp. 816–828, 2016, doi: 10.1002/da.22502.
14. A. Moovethan and L. Nivethitha, "Evidence based effects of yoga in neurological disorders," *J. Clin. Neurosci.*, vol. 43, pp. 61–67, 2017, doi: 10.1016/j.jocn.2017.05.012.
15. P. Akhtar, S. Yardi, and M. Akhtar, "Effects of yoga on functional capacity and well being," *Int. J. Yoga*, vol. 6, no. 1, p. 76, 2013, doi: 10.4103/0973-6131.105952.
16. C. C. Chou and C. J. Huang, "Effects of an 8-week yoga program on sustained attention and discrimination function in children with attention deficit hyperactivity disorder," *PeerJ*, vol. 2017, no. 1, 2017, doi: 10.7717/peerj.2883.
17. J. Granath, S. Ingvarsson, U. von Thiele, and U. Lundberg, "Stress management: A randomized study of cognitive behavioural therapy and yoga," *Cogn. Behav. Ther.*, vol. 35, no. 1, pp. 3–10, 2006, doi: 10.1080/16506070500401292.
18. G. K. Alexander, K. Rollins, D. Walker, L. Wong, and J. Pennings, "Yoga for Self-Care and Burnout Prevention among Nurses," *Work. Heal. Saf.*, vol. 63, no. 10, pp. 462–470, 2015, doi: 10.1177/2165079915596102.
19. H. R. Shree Ganesh, P. Subramanya, R. Rao M, and V. Udupa, "Role of yoga therapy in improving digestive health and quality of sleep in an elderly population: A randomized controlled trial," *J. Bodyw. Mov. Ther.*, vol. 27, pp. 692–697, 2021, doi: 10.1016/j.jbmt.2021.04.012.
20. I. Hagen, S. Skjelstad, and U. S. Nayar, "Promoting mental health and wellbeing in schools: the impact of yoga on young people's relaxation and stress levels," *Front. Psychol.*, vol. 14, 2023, doi: 10.3389/fpsyg.2023.1083028.
21. J. Y. Y. Kwok et al., "Effects of Mindfulness Yoga vs Stretching and Resistance Training Exercises on Anxiety and Depression for People with Parkinson Disease: A Randomized Clinical Trial," *JAMA Neurol.*, vol. 76, no. 7, pp. 755–763, 2019, doi: 10.1001/jamaneurol.2019.0534.
22. M. D. Mathad, B. Pradhan, and R. K. Sasidharan, "Effect of yoga on psychological functioning of nursing students: A randomized wait list control trial," *J. Clin. Diagnostic Res.*, vol. 11, no. 5, pp. KC01–KC05, 2017, doi: 10.7860/JCDR/2017/26517.9833.
23. R. A. Cocchiara et al., "The use of yoga to manage stress and burnout in healthcare workers: A systematic review," *J. Clin. Med.*, vol. 8, no. 3, 2019, doi: 10.3390/jcm8030284.
24. I. Axén and G. Follin, "Medical yoga in the workplace setting—perceived stress and work ability—a feasibility study," *Complement. Ther. Med.*, vol. 30, pp. 61–66, 2017, doi: 10.1016/j.ctim.2016.12.001.